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# PHOTO-ERA MAGAZINE

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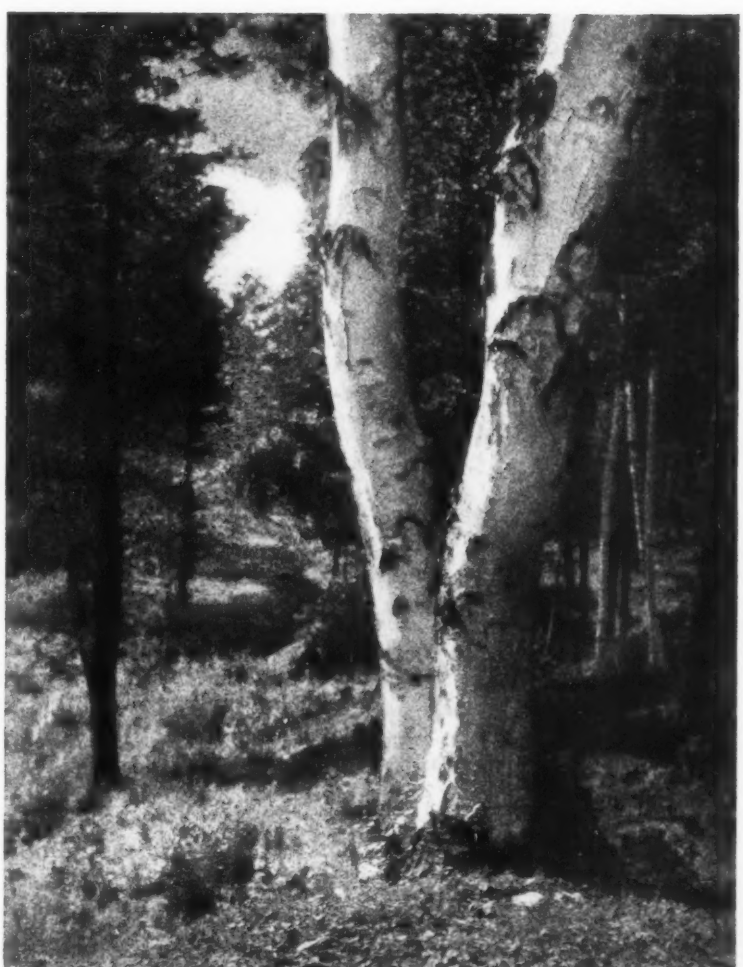

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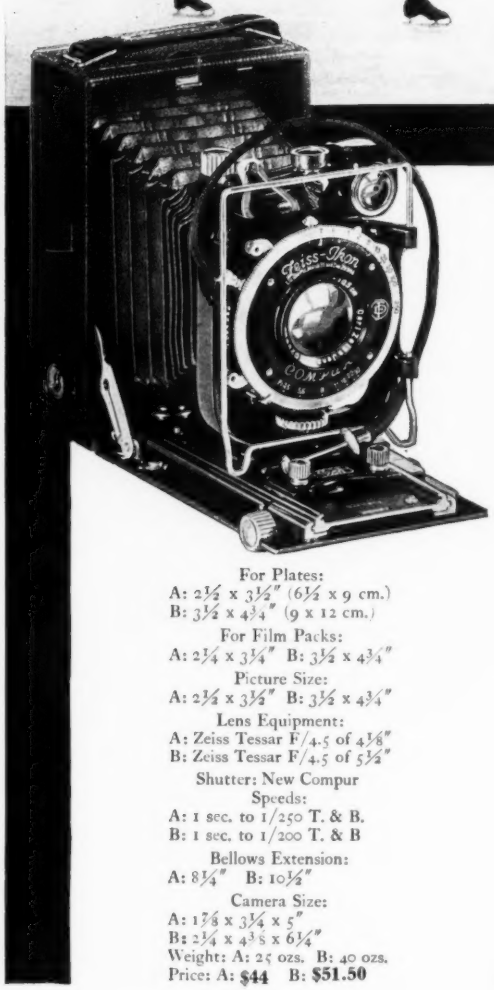


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# Contents for April, 1931

## ILLUSTRATIONS


| | | |
|---|---|---|
| Woodland Sunshine | *Raymond E. Hanson* | Front Cover |
| Kazatchka | *Nicholas Ház, F.R.P.S.* | Frontispiece |
| A Happy Family | *William H. Zerbe* | 181 |
| The Background Painter | *J. O. Sprague* | 182 |
| Bowery Sunbeams | *Howard G. Dine* | 183 |
| Etude de Reflets | *Leonard Misonne* | 184 |
| Juicy Fruit | *Theodore H. Schuelke* | 184 |
| The Racing Fisherman | *T. E. C. Robinson* | 187 |
| Stereo-Picture | *A. Hein* | 191 |
| Fairchild Photographic Airplane | *U. S. Army Air Corps* | 194 |
| Captain A. W. Stevens with Aërial Camera | *U. S. Army Air Corps* | 195 |
| Installation of Aërial Camera | *U. S. Army Air Corps* | 196 |
| Aërial Mosaic Map | *U. S. Army Air Corps* | 197 |
| Record Aërial Picture of Mt. Ranier | *U. S. Army Air Corps* | 199 |
| Arlington Amphitheater at Night | *U. S. Army Air Corps* | 200 |
| Flying Mercury Statue | *Clarence Ponting* | 206 |
| Fish Shacks of Rockport | *Raymond E. Hanson* | 208 |
| The Mystic Lake | *Raymond E. Hanson* | 209 |
| Woodland Sunshine | *Raymond E. Hanson* | 211 |
| From the Open Sea | *S. Topalian* | 212 |
| First Place—Our Monthly Competition | *Allan F. Barney* | 215 |
| Second Place—Our Monthly Competition | *George W. French* | 216 |
| Third Place—Our Monthly Competition | *A. W. Clark* | 217 |


## ARTICLES


| | | |
|---|---|---|
| Why I am a Pictorial Photographer, Number 35 | *Nicholas Ház, F.R.P.S.* | 179 |
| Third International Syracuse Salon | *Anna W. Olmsted* | 181 |
| Amateur Photography in the Wide-Open Spaces | *E. L. C. Morse* | 185 |
| Stereoscopic Photography | *A. Hein* | 189 |
| Aërial Photographic Activities, Army Air Corps | *U. S. Army Air Corps* | 194 |
| The Photographic Adventures of Bert and Ray, XXII | *Neil Wayne Northey* | 201 |
| The Making of Pictures by Photography | *Clarence Ponting* | 204 |
| Speaking of Photography, No. 3 | *A. H. Beardsley* | 207 |
| Notes on Landscape Values | *Raymond E. Hanson* | 209 |
| Editorial | *A. H. Beardsley* | 213 |


*Contents of previous issues of Photo-Era Magazine can be found by consulting the Readers' Guide in your library*

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**A. H. BEARDSLEY, Editor**

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*(Any book not in this list will be obtained promptly)*

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NICHOLAS HÁZ, F.R.P.S.

# PHOTO-ERA MAGAZINE

**For the Photographer and Kinematographer**

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**Vol. LXVI** **APRIL, 1931** **No. 4**

## Why I Am a Pictorial Photographer

**(Number Thirty-Five)**

NICHOLAS HÁZ, F.R.P.S.

"Let us now sum up . . ."

I AM sorry I am no "pictorial" photographer. Even when I made pictures with the camera, I was a photographer pure and simple. The word "pictorial" never appealed to me, just like the word "photographical" does not appeal to me now that I am making pictures by hand.

"Pictorial photographers" and "photographical painters" are in the same class, in my mind. They both do something that is not quite typical or natural to their means of picture-making. The painters' province is well known. He is limited by nature and by tradition to move within certain limits. The photographer also has such a province. He should do either what a painter *cannot* do, or for some other reasons does not do. The photographer's domain is much bigger, freer, more thrilling than that of the painter, and it is quite new, into the bargain. There is still a good chance to be an ancestor in photography, whereas in painting one cannot be anything but a descendant.

Therefore, please let me write a few words on a general theme. When I was a photographer, I stuck to it because it was so exceedingly interesting and profitable. I got fat in photography. Here is hoping that painting and teaching will reduce me.

"Art is the act, or process of acts of a human being, transmitting emotions and ideas to other human beings." This definition covers all arts; but it takes in, too, a great many other things which never would be admitted to be art by even professional "wisecrackers." In the first place, this would make artists of everybody, in everyone else's opinion—which, we know, is not the case.

An artist is a human being who can transmit emotions and ideas to me, in person, in such a manner as to force me to admit, acknowledge, or recognise the presence of some beauty or good quality in his particular instances of emotion-transmitting. If I do so, I may think or say that I like, enjoy, admire, love, respect, venerate, or adore these, because I am stimulated, stirred, thrilled, roused, impressed, fascinated, ravished, or enraptured by their experience. To reward the cause of such interesting events, I may declare the emotion-transmitter an artist. This compliment, for it is not more than that, *will* make him an artist.

And then I may make a final definition of art: *"Art is the emotion-transmitting activity of such a human being, whose work (of this sort) I like."* This "I and me" is you, the reader; in other words, every human being of this world—personally, individually. You will decide who is an artist and who is not, as far as you are concerned; but others decide whether *you* are one. It seems to me that this line of reasoning is readily accepted as correct, by quite a great number of thinkers. Only two kinds object.

The first sort of dissenter has an indefinite, hazy belief in the existence of some hard-and-fast rules, or even laws of nature, which incontrovertibly, absolutely, decide what is good and beautiful, and what is not, in art. Such persons will argue furiously in favor of this belief. It is often impossible to stop them; but they can be slowed down

considerably with a request to quote a few of these absolute laws. One may also ask them for a classified catalog of beauty and quality in art. The address of a "General Bureau of Standards for Beauty and Goodness in Art is also a good thing to demand, for this usually puts them on the defensive. Would it not be fine if one could submit his problems of beauty to an office for correct analysis? Think of receiving a neat certificate of Artistic Value, with exact percentages, guaranteed to be valid before courts and juries! With the help of such documents one could prove that the jury which has rejected the selected pet prints was either prejudiced or stupid—a belief every rejected one is prone to hold, but which he would have a hard time to prove to others. And then—oh joy of joys!—one could sue the critic, who has panned one's work, for slander, or interference with one's business, libel, what not—and could win the suit.

But these hopes are futile in view of the fact that, in the celebrated Sir Joseph Duveen –Leonardo da Vinci lawsuit, not even a concrete fact could be proved one way or another, and after years of litigation, with the best lawyers, and the expenditure of hundreds of thousands of dollars, it could not be decided whether a certain painting was produced by a certain painter or not. As to the beauty and goodness of the painting there had been two sets of "experts" arguing in two entirely different directions, yet with no one who could prove his point to the full satisfaction of the jury.

The other sort of dissenter is the individual who is dissatisfied with this sovereign right to decide who is an artist and who is not, so far as he is concerned. He claims the power to decide that for everybody else. He thinks that everyone *must* agree with him, unless, of course, the dissenter is a moron or a Mongolian idiot. He is firmly convinced that the person who dares to disagree with him can do that only because he is of such an inferior mentality that he does not realize the enormity of his crime or stupidity in disagreeing with *him!* To him, disagreeing opinions "do not count", as Mr. F. C. Tilney puts it, in his clever book about "Principles of Pictorialism".

These "czars" of good taste and quality realise that some potentates have fallen down in the attempt to govern the likes and dislikes of their subjects, yet they hope that they will succeed where others failed. It is comparatively easy to become such a self-appointed "czar". A little success as picture-maker, teacher, art-dealer, president of a salon or a museum or an art society, judge, jury member, editor, publisher, but particularly as a critic, will quickly bring an illusion of infallibility and mental supremacy over all other members of the human race.

As a rule, it would be easier to stand the Empire State Building on its flagpole than to get such persons to admit that they may be mistaken as to their absolute knowledge of beauty and quality. To them nonconformists are either crooks or idiots. Yet if you ask a number of them the stale old question, "Is photography an art?" you will get three different answers:

1. *No!* No picture ever made with a camera could be called a work of art. (Among others, the late Joseph Pennell and Julius Meyer-Graefe, a well-known German critic, said so.)

2. *Yes and no.* There are photographs and photographs. Certain pictures, made by certain workers, of certain subjects, in certain ways, may well be called works of art. Others not.

3. *Yes.* Every photograph is a work of art. Motion-pictures, in particular, are all more important or interesting than any hand-made picture.

Which of the three is right? All three of them are right. Why? That is simple. The deniers cannot remember ever having had a real thrill out of a photograph; or, if so, then they explain that away with the excellence of the camera, or blind chance, or the miraculousness of sensitive materials. They never could credit the man behind the camera with sense, cleverness, and artistic ability. Since that is the way they see it, they are right in withholding their admiration from photography.

The "yes and no" ones know more about the technique of photography and are sure that a camera alone will not turn out photographic masterpieces—consistently. So they admit that certain subjects, photographed with certain materials, at certain places, by certain makers, may be called works of art. Not that they agree on the excellence of identical pictures. Some of these might call a picture an old-fogie-made pot-boiler, which others will qualify to be a crazy ultra-modern freak or stunt.

The "yes" man is an unadulterated, dyed-in-the-wool camera fan, with the courage of

his convictions. To him pictures made without the benefit of a camera are not worth mentioning. He is a keen progressive, with his mind on the future, and he sees the days clearly ahead, when the camera will have eliminated all hand-made pictures. So he pays his compliments only to photographic pictures and looks at hand-workers as future "has beens". He has a perfect right to do so, and no one can disprove him, as the other two are also quite secure. *De gustibus non est disputandum.*

# Third International Syracuse Salon

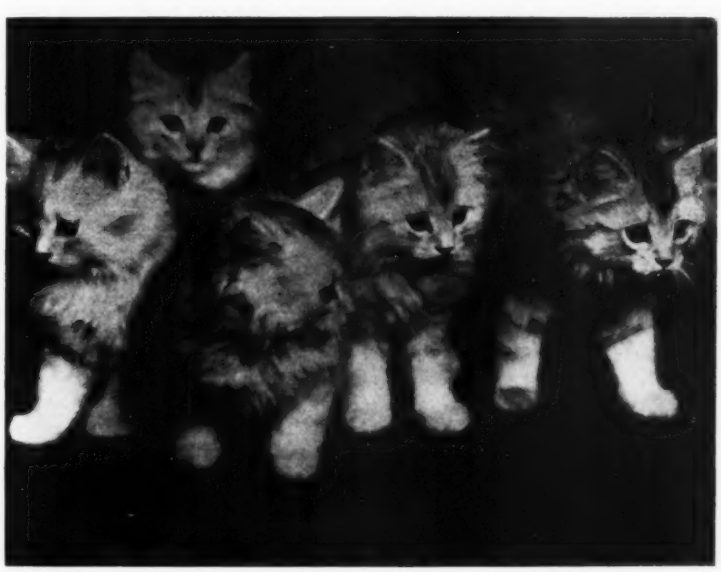
ANNA W. OLMSTED

*Assistant Director of the Syracuse Museum of Fine Arts*

THE south gallery of the Syracuse Museum of Fine Arts has been given over to the Third International Syracuse Salon of Pictorial Photography under auspices of the Camera Club of Syracuse. We take off our hat to Kent C. Haven, director of the Salon, and to the jury of selection, including Prof. Montague Charman and Hugh H. Goodhart of Syracuse, and Alexander Leventon of Rochester, who have assembled so many delightful examples of the photographer's art.

"Can photography be reckoned among the fine arts?" asks Charles H. Caffin in a book written thirty years ago, and he answers his query by quoting from the great French painter Delaroche, who, upon beholding a daguerreotype for the first time, declared, "Painting is dead." And perhaps in such an exhibition as this, to which we earnestly invite Delaroche's ghost, there is a possible key to this modern art enigma: "Why modern art?" Why this straining to be different?"

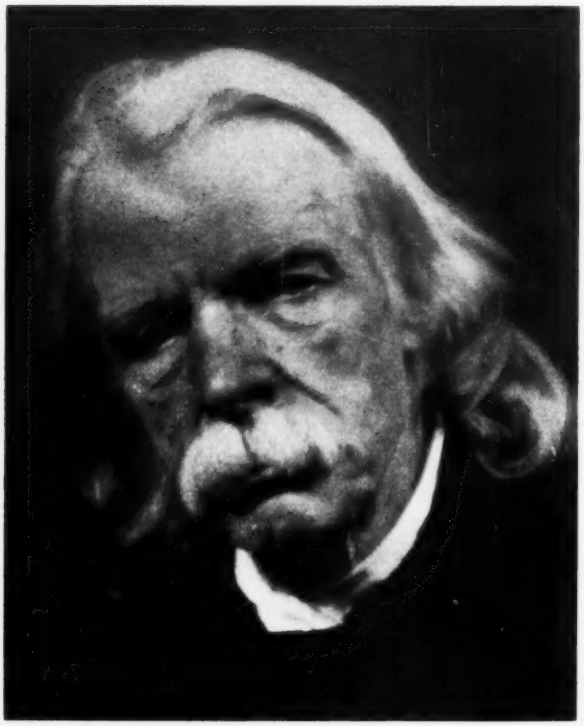
To which the modernist painter replies, "And why not modern art, when the camera men have stolen a march upon us, or at any rate have stolen our thunder? Why labor to produce Rembrandtish portraits, or Corotesque



A HAPPY FAMILY — WILLIAM H. ZERBE
THIRD INTERNATIONAL SYRACUSE SALON

landscapes when the camera has so cunningly managed all these things with about one-tenth of the labor involved? Therefore we, the modernist artists, refuse to paint either 'critturs' or objects as they might appear to the all-seeing eye of the camera. We must—we shall be different."

Here, then, is to be found some of the forgotten beauty for which you may have sought in vain in some of the up-to-the-minute, ultra-modern exhibitions of painting in li'l ol' New York.



THE BACKGROUND PAINTER J. O. SPRAGUE
THIRD INTERNATIONAL SYRACUSE SALON

Four members of the local camera club, which is quietly staging the most attractive little monthly exhibitions in their own clubrooms at the "Y", are represented: Kent C. Haven, a member of the Pictorial Photographers of America, with his "Pillar Shadows", an interesting view of one of the Lincoln Memorial colonnades which has been exhibited widely throughout the United States and at Buenos Aires, and his delicately lovely study in grays, "First Snow"—the wintry branches reflected in the icy stream with its snowbound edges; Leonard J. Mulhauser, with his subtly beautiful "Winter Freshet"; Theodore H. Schuelke, with his appetising "Juicy Fruit"; J. A. Sprague, with the "Background Painter", a fine character study of a picturesque old man with long, white hair who is a familiar figure about town.

Rochester, which has just been holding its own photographic salon, also has sent several photographs: Alexander Leventon, who is well known as an exhibitor all over the world, is showing a portrait of a good-looking Russian boy in a Cossack fur cap, and an excellent portrait of Rachmaninoff. Two peasant-girl studies—the best one, "Loneli-

BOWERY SUNBEAMS — HOWARD G. DINE
THIRD INTERNATIONAL SYRACUSE SALON

ness", in which the maiden, like Eve, has an apple for company—and an admirable "Study of Human Nature", a man with a somewhat inhuman expression, are by Byron Morgan.

John McMasters, with "Strolling along the Beach", has caught two tiny children at the edge of the water—a streak of light upon the horizon—very nice in its simplicity. And there is Walter S. Meyers, who has produced a little composition of great depth out of "Michigan Avenue"—the distance well marked, the lions of the Chicago Institute forming an attractively lighted center of interest.

Speaking of Rembrandtish portraits, Edwin Bolan of Illinois is very successful in portraiture—notably with "Andrey Charkovsky", a superb young Russian dancer of barbaric beauty, the head and powerful throat touched with light—as fine a photograph as one would wish to see.

Dr. Max Thorek, F.R.P.S., well-known surgeon, and almost equally well known for his avocation, photography, is exhibiting "Tolstoy's Double", who certainly looks the part; "Orientale", the fascinating dancer with glittering Oriental scarf; and the conductor "Maestro Pollak", with the light interestingly concentrated upon earnest face and baton.

Dr. Maximillian Kern's "Cynic" is appropriately named; L. H. Longwell's "The Cigarette" is held by a sheikish type of person with pirate earrings. And one of the best photographs in the room is that of the nun in "Credo"—the clasped hands and profile of the bowed head are exquisite—the work of Allen F. Barney of Chicago.

F. A. Reager's "Boy Scout" is good; and speaking of boys and dogs, we love his "Alert", a handsome police dog's head, which has been awarded a prize; and some bewitching Persian kittens, "A Happy



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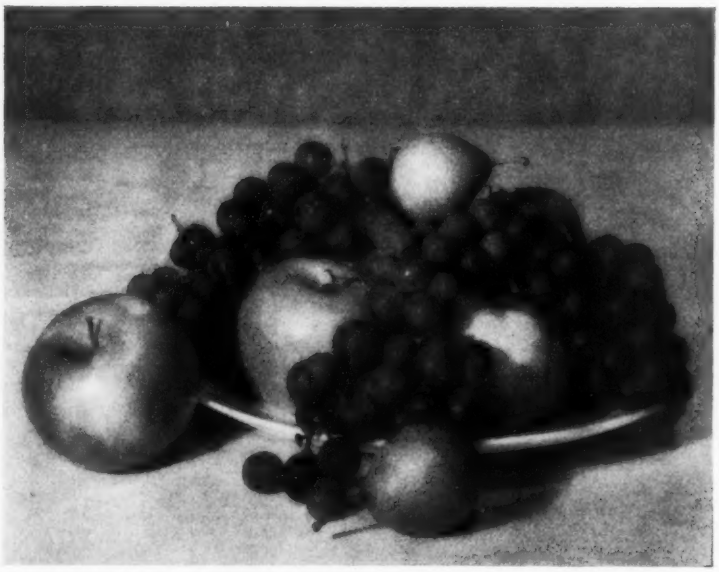
ETUDE DE REFLETS — LEONARD MISONNE
THIRD SYRACUSE INTERNATIONAL SALON



JUICY FRUIT — THEODORE H. SCHUELKE
THIRD SYRACUSE INTERNATIONAL SALON

Family", by William H. Zerbe, who has taught photography and given lectures at the Brooklyn Institute of Arts and Sciences for years, and who is a brother of Fred K. Zerbe of this city. Thrilling, too, is a horse-race study, "The Sport of Kings", photographed by Franklin Jordan of Boston.

Mrs. J. Petrocelli, widow of a famous photographer, has sent two photographs—one, "Evening on Lake Lucerne", like an aquatint in quality. Mrs. Antoinette B. Hervey of New York City specialises in cathedrals, and has sent "Coutances Pattern", in which the shadow of the cathedral over the way, itself unseen, is thrown upon a row of quaint dwellings. And Ira W. Martin, president of the Pictorial Photographers of America, shows a modernistic skyscraper from a modernistic angle, looking up.

Among the foreign exhibitors, Leonard Misonne of Belgium is a wealthy consulting engineer, and devotes three rooms in his immense castle at Gilly to his photographic hobby; and Frank Drtikol of Czechoslovakia has gone in for clever fantasies as modern and full of imagination as some of the conceptions of the etcher, Blanding Sloan. And, by the way, we have heard that a certain Russian photographer residing in Berlin obtains most of his inspirations for light-effects from the American movies that come to Berlin.

"International" is certainly the word for this exhibition in more ways than one, for we are a bit bewildered by seeing photographs by R. G. Smith of Shanghai; many by Japanese artists living in California, and others with pure Italian and Russian names who hail from Philadelphia or Cincinnati.

Great is the variety of subjects chosen by these "free-lance amateurs" as they call themselves; from wind-swept desert to gorgeous mountain scenes above the timber line; from mighty engines with trains oncoming and trains outgoing, dramatically wreathed in smoke, like "The Power of Pittsburgh" to "Gas Tanks" and "Tar Barrels".

And great, also, the variety in printing. Particularly interesting the many types of paper used, sometimes the thin tissue that is used for wood-block printing. Verily, we have come a long way from the stiff pioneer achievements of Daguerre, which so enchanted Delaroche.

But, as Caffin has written: "The difficulties which photography presents are the measures of its possibilities. If anyone could succeed, there would be no chance for the artist." And pictures such as these are deserving of the title "works of art".

[Reprinted from the *Syracuse Post Standard* by special permission. Miss Olmsted is one of the prominent women of Syracuse and is a distinguished art-critic. We deeply appreciate her kindness and the co-operation of the Syracuse Camera Club.—EDITOR.]

# Amateur Photography in the Wide-Open Spaces

E. L. C. MORSE

THE experiences of Mr. Beers, so graphically recounted in the December, 1930, number of PHOTO-ERA MAGAZINE, will arouse a sympathetic interest in the breast of anyone who has ever tried to make and develop pictures in this country of "wide-open spaces". Conditions in the Southwest are so different from those of the East that I am tempted to offer a few supplementary hints on photography in the desert plains and mountains, based largely on my own experience.

As for equipment, of course, tastes will vary. It should be borne in mind, however, that an automobile is almost indispensable in getting about in this country—in Texas, New Mexico, Arizona, and Southern California. Auto-roads are very good, as a rule; and, unless one travels over mountains or rough places on foot, with his photographic equipment on his back, the relative weight of films and plates cuts no figure. For ordinary snapshots or records of a personal nature, filmpacks are very convenient. For pictures in which one wants to preserve color-gradations in monochrome somewhat as they appear to the eye, panchromatic emulsions are quite necessary. The Wratten (Eastman) panchromatic plates are excellent and have filters, K-1, K-2, K-3, and G, which are adapted to Wratten plates. A suitable outfit for desert and mountain photography will include a camera adapted for plates and filmpacks; a

supplementary lens of about 10-inch focus; filters as above; changing bag, folding tripod; Dallon type of tank; Burroughs-Wellcome calculator, and a Zeiss Ikon or Watkins meter, the latter two being used to countercheck each other. But, of course, directions for the use of filters and actinometers must be carefully followed.

In desert work I have found that K-1 is satisfactory in most cases, though sometimes K-2 can be used advantageously. Unless used with great caution, K-3 is prone to "overcorrect" landscape. A long-focus lens with a G-filter will render distant mountains with a clearness impossible otherwise, exposure being about sixteen times normal. Especially in summertime there is often a certain haze or smokiness on mountain scenery that requires skillful treatment from the photographer. In calculating exposure for a distant shot, one must allow for the haze, for increased exposure for the filter, and for the increased focal length of the supplementary lens.

Imagine a deep-blue sky, a white peak, gashes of orange-colored strata of rock or sandstone, green trees, yellow sands, purple shadows, gray-brown highway—almost the entire spectrum! A landscape strange to Eastern eyes—silent, sharp, and distinct, no moisture in the air, no softened outlines, perhaps no evidence of human life except an ancient prospector slowly toiling along with his laden burro. The pitiless glare of noonday, the awesome midnight when you feel that you can almost touch the blazing stars above, the creeping shadows of morning and evening across unfathomable ravines and towering cliffs, amid a silence that hangs so heavy you scarcely dare to speak—Mother Nature of incalculable age in her sternest mood, primitive, geologic. What a lesson in humility and proper appraisal of the human ego! What a change and rest to nerves worn bare by jangling city sounds and sights!

The flat monotony of the desert itself, of course, cannot offer the appealing masses and lines that the mountains do; yet it is a mistake to assume that the desert is destitute of color, especially during the rainy season, which corresponds to the Eastern winter. Gorgeous and unsuspected flowers then spring into sudden life. The place is ablaze with color—every hue of the rainbow, tints from the most shrinking to the flashiest and boldest imaginable. On such desert or mountain scenes it would be almost an insult to use an ordinary emulsion. Panchromatic plates or films with suitable filter at their best can do little more than offer a suggestion to be treasured as a souvenir of happy vacation-days, an inspiration salutary to the soul.

It is necessary to calculate exposures with great care, checking one method against another. After you have made your closest calculation, it is a good plan to make another exposure on the same scene with twice or, better still, one-half of the first exposure. Of course, you keep tab on exposures in your notebook for each negative. Filmpacks and orthochromatic plates do fairly well, except that even with a filter they are blind to the slow-wave colors, red, purple, brown, and orange. Self-filtered plates do considerably better, but, as yet, are not manufactured in this country and have to be imported from abroad. Panchromatic filmpacks are advertised and used in England; but, so far as I know, are not made here. Striving for best effects and using only American goods, we are restricted to Wratten (Eastman) panchromatic plates and cut-films with Wratten (Eastman) filters. However, there is no cause for complaint, as these goods are most excellent when used according to directions. As between panchromatic plates and panchromatic cut-films, personally I find the former easier to manipulate. Cut-films have to be inserted into a special sheath and then loaded into a plateholder. They may be developed in a tank—only in a dark room—with clips and hangers, and so on; but I imagine that an artist who uses panchromatics for landscape is enough of an artist to develop his negatives by hand himself—though, of course, tastes differ.

The chief objection to panchromatic plate and films used to be that they had to be developed in complete darkness. This is no longer true, owing to the invention of the so-called desensitiser. After soaking the panchromatic plate or film in the liquid desensitiser for about a minute, you may proceed to develop your negative by candlelight or even much subdued daylight, with no bad effects—and you can see just what you are getting. It may be said that, contrary to advertisements, exposure is a matter of arithmetic; but development is a matter of judgment. Tank development never made an artist, but tray development possibly may produce one, provided the artistic temperament exists.



XUM

THE RACING FISHERMAN
T. E. C. ROBINSON

All this brings into use again our ancient and half-forgotten friend, the changing bag, which constitutes your portable darkroom, and may be rolled up and tucked away in a traveling bag reposing on the bottom of your car together with other paraphernalia. You have, say, half a dozen plateholders loaded with panchromatic plates or cut-films. These, after exposure, you unload in the changing bag, put back into convenient receptacles, and load up again with fresh plates or films as long as you like or your supply lasts. By means of several previous trials with old developed plates—and convenient inside props—you become expert in using a changing bag. You are guided by the sense of touch while working in complete darkness inside the bag. You can do the trick safely even in the glare of midday sun in the middle of the Mojave Desert, if you like.

If you are unwilling, while on a tour, to wait till you get home to do your developing, you can develop panchromatic plates and films right out in the desert or on the mountains. But this requires a type of tank of which the Dallon is a good example. The intake and outlet are light-trapped. You may use the same tank for developing, fixing, and washing, being very careful, however, to wash it out thoroughly afterwards in order to remove every trace of hypo. The procedure is as follows: In the light-tight changing bag, you put the empty tank and the loaded plateholders. Close the bag. Insert the plates or cut-films in the tank, which you then remove into daylight. Pour in your developer through the top spout, the lid having been closed while in the bag. At the end of the proper time-and-temperature period let out the developer through the lower outlet. Pour in fresh water to remove traces of developer. Let it out and pour in the fixing solution. After fixing, look the negatives over to see what you have got and how you like them. Then put them back in the tank, which now contains a hypo-eliminating bath, of which "Hypono" is a good example. Let them slosh about in the closed tank while driving to your stopping place for the night. You hardly ever have trouble about drying negatives in desert places.

Possibly you prefer to develop your panchromatic plates or films by hand in a tray. Most pictorialists do. In that case the procedure is about as follows: you may darken the windows of your automobile or close the opening of your tent, using either as a workroom. Into the changing bag you put a loaded plateholder containing a panchromatic plate or panchromatic cut-film, also a tray about half full of the desensitiser liquid. Let the emulsion soak in the tray for about a minute. Withdraw and develop in another tray by candlelight, taking care to keep developing solution covered except while examining the negative. This is easily done with plates, but handling cut-films in a developing tray is about as easy as handling so many greased eels.

Attaching one side of a blanket to the car and holding up the other side by sticks, one can do a respectable job of printing on slow gaslight paper at night in the desert by using a flashlight as illuminant—on the running board, while sitting in a camp chair. Except the five-gallon jug of water which you will prudently take along in the car, the whole photographic kit can be easily tucked away in a traveling bag alongside the food and blankets—and extra gasoline can.

The pioneers to the Great Southwest trudged along through the blinding sand and over rugged mountain passes in covered wagons drawn by oxen and mules. We go over the same route in an automobile on a concrete road at fifty miles an hour. The pioneers in photography used the wet plate, then the dry plate, then the false color-blind emulsion, until of late their descendants are just waking up to the possibilities of the panchromatic-and-filter stage of photography. Probably nobody of sound common sense—and having the price in his pocket—would ever now think of buying one of Henry Ford's antiquated flivvers, and I am quite certain that no photographer worthy of the name would ever go back to the ordinary emulsion for truthful artistic pictures after mastering and using panchromatic plates and films.

To the pictorialist with nomadic tendencies—and who of us is exempt therefrom?—the automobile, the desensitiser, the changing bag and the Dallon type of developing tank have opened a new world of photography little dreamed of fifty years ago.

Having spent some eighteen days—three times as long as needed—in driving—perhaps "moseying along" or "puttering about" would be a better description—from Chicago to Los Angeles, I would add a few non-photographic hints for the benefit of Eastern amateur photographers who take this method of seeing the Great Southwest. Get a good

road map from some automobile club and study it carefully, noting where camps and gas stations are available. Pay a slight fee and avoid undesirable companions at free camping sites. Always keep your tank as full as possible and take no chances of running out of gas. Watch the water in your radiator and drain it about once a week; some water has too much lime in it. Always,—printer will please underscore *always*—ALWAYS lock your ignition and car doors when leaving your car on the street or highway. Never, except in direst emergencies, take a stranger to ride in your car. The traditional Texas horse thief has been superseded by the innocent-looking wayfarer who begs a ride, which ride may be your last on this earth. Roll-films may be bought at almost any small town; but filmpacks are not so easily obtainable. Panchromatic plates and cut-films are hard to get outside of large cities. If you carry a tent, be sure that it has a canvas floor and a threshold high enough to keep out creeping things at night. Until physically acclimated, don't try to walk to yon hill which seems so near—and is not. Until financially acclimated, do not make alluring investments which may not be so good. "Boosting"—that is, boasting, crowing, and ballyhooing about one's own particular locality—is one of the native pastimes in this part of the country. It is one of the unpardonable deadly sins for a stranger not to agree with everything said by a native when he praises his own city, town, county, or state. Nod, smile, and pass on. Never compare East and West to the detriment of the latter.

Finally, bring good, thick blankets with you. The air of the desert at night is cold and raw—it seems to pierce the very marrow of your bones unless you are properly protected.

# Stereoscopic Photography

A. HEIN

NOWADAYS, it seems that stereoscopic cameras are regarded somewhat in the nature of curiosities; they are becoming increasingly difficult to obtain and, before long, they may be off the market altogether unless, of course, something happens to revive interest in their manufacture. Becoming interested in stereoscopy several years ago, I tried to purchase a reasonably-priced stereoscopic outfit and, after going the rounds of the larger photographic supply houses, I finally gave up the attempt. Later, I learned where I might obtain a few used cameras, and I have since found that, aside from a few foreign makes available for purchase, no stereoscopic camera is, at present, being manufactured in this country.

Interest in stereoscopic photography must be on the wane when a satisfactory camera can be purchased only with difficulty. Has the public simply discarded stereoscopic photography as a useless toy, or has it been forgotten in the midst of all the newer and modern things of the last decade? While portrait and snapshot photography have continuously grown in public favor, stereoscopy remains on the ebb and, for some unknown reason, receives scant attention notwithstanding the realistic and lifelike character of stereoscopic pictures to attract and fascinate.

Almost every present-day writer on the subject of stereoscopy comments at some length on the fact that this branch of photography has been neglected, and looks forward to the time when public interest will again be renewed, the stereoscope once more enjoying the popularity that it rightfully deserves. Yet the incentive must be provided; the public must be educated to appreciate the advantages of stereoscopic photography; there must be some inducement for the amateur to become interested. Some years ago, an American manufacturer put a fairly good stereoscopic camera on the market in an attempt to popularise stereoscopy; but the enterprise failed to take hold, and production ceased within a comparatively short time. The camera was quite expensive; possibly this factor contributed to the failure.

Ordinary snapshot photography has been popularised in the past decade to such an extent that to the amateur with a small Kodak, practically every corner drugstore is capable of supplying his photographic needs. The amateur prizes his pictures highly because

they happen to be personally recorded photographic reproductions of various events in the life of the camera owner. The camera, as well as the pictures, are quite inexpensive; and because good pictures are so easily and cheaply obtained, there is a sustained interest—a desire to obtain them under every favorable circumstance. Is it at all conceivable that cheaply priced cameras would do for stereoscopy what they have done for snapshot photography in the past few years?

Twenty years ago, no parlor table was complete unless it exhibited at least one stereoscope and a set of views. Titles ranged all the way from a trip through China to a tour of the world, and, when company came, a brief pictorial excursion through some remote portion of the globe helped to entertain the guests. In those days, of course, the motion-picture and automobile industries were still in their infancy, and, for lack of a better means of entertainment, the stereoscope provided possibilities for a few hours' diversion. But the stereoscope has long since been relegated to the attic, where it lies dust-covered and neglected; the pictures are there, too—the pictures that were viewed times without number until they no longer attracted the eye. Suppose that these pictures had not been commercial reproductions, presenting, as they did, only some bit of foreign scenery or landscape—is it probable that they would have been kept and treasured, that the stereoscope would still be a necessary part of the family photographic collection?

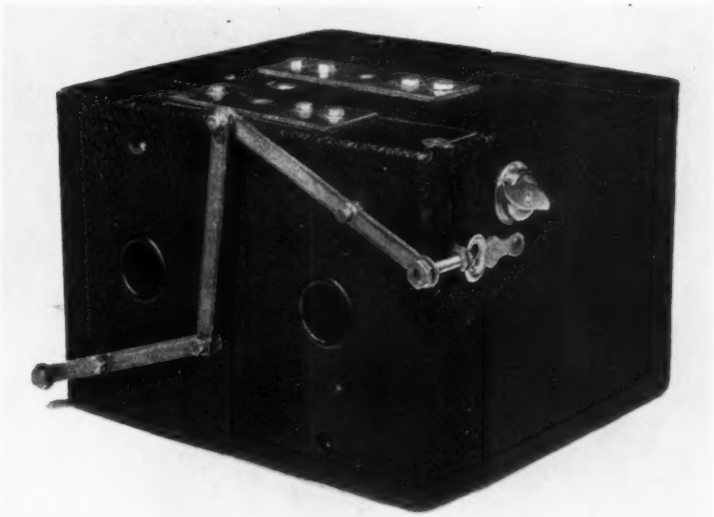
Pictures of an impersonal character soon lose their novelty when frequently seen. Pictures of a distant city or of some object unknown to the beholder are generally too detached from the life and interests of the average person to attract other than passing interest; hence, relief effect in a stereoscopic view is admired and commented upon, but after a time it ceases to attract. Assuming, however, that the possessor of a set of stereoscopic views has actually made the pictures himself, that they are pictures of his family and friends, vacation snapshots, views of personal events in his own life, they take on an altogether different aspect, and, hence, provide a never-ending source of personal satisfaction and entertainment.

If we analyse the failure of stereoscopy to take hold as a popular instrument of photography, we thus find a number of contributing causes—prohibitive cost of the equipment, impersonal character of the views, and a lack of knowledge on the part of the amateur in the production of stereoscopic pictures. The technique is simple enough, once it is understood; but most people unacquainted with the fundamentals of stereoscopy have the impression that the production of a stereoscopic photograph is a highly intricate process. Others are of the belief that a stereogram consists simply of two similar pictures pasted together on a cardboard which, upon being viewed through a suitable device, will produce the illusion of three-dimensional objects. To provide here a detailed account of how the stereoscopic effect is produced would be beyond the scope of this article, but a brief explanation covering the essentials will possibly be helpful to some readers.

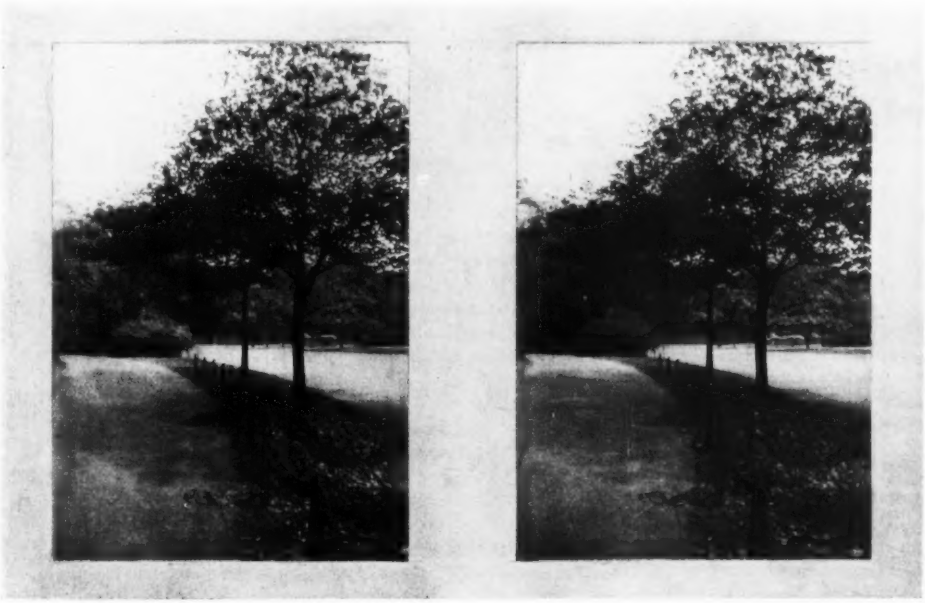
When looking at an object with only one eye, a pencil for example, held at a distance of ten or twelve inches, there is practically no conception of depth or of relief—the pencil blends into the background and it is difficult to locate with respect to the other objects placed directly behind it. Now, use both eyes in looking at the pencil: the right eye sees the right side of the object, and the left eye sees the left side. There is a blending of these two separate and distinct pictures, the third-dimensional effect is produced, and everything in the background is seen in its correct relationship to the picture as a whole. If we take two cameras and mount them side by side so that the lens of each will be separated from the other by a distance of approximately 2½ inches, we have an instrument that will record the third dimension of depth in the same manner as recorded by the eye.

Almost any amateur can make a stereoscopic camera which will produce pictures comparable in many respects with commercial reproductions, if he cares to devote a few hours' time to the project. To show what can be done in this direction, the box camera illustrated was improvised of materials costing about $2.25. Each of the cameras was purchased for a dollar apiece, and the hardware cost twenty-five cents.

As shown in the picture, one camera was placed upside down, and the shutters of each camera were made to operate in unison by means of a lever movement consisting of three small brass bars 1/16 by 3/16 inches in width. The lever mechanism is attached to the shutter-release with a piece of brass soldered to the latter, through which an ordinary ⅛-inch bolt has been passed. In making this

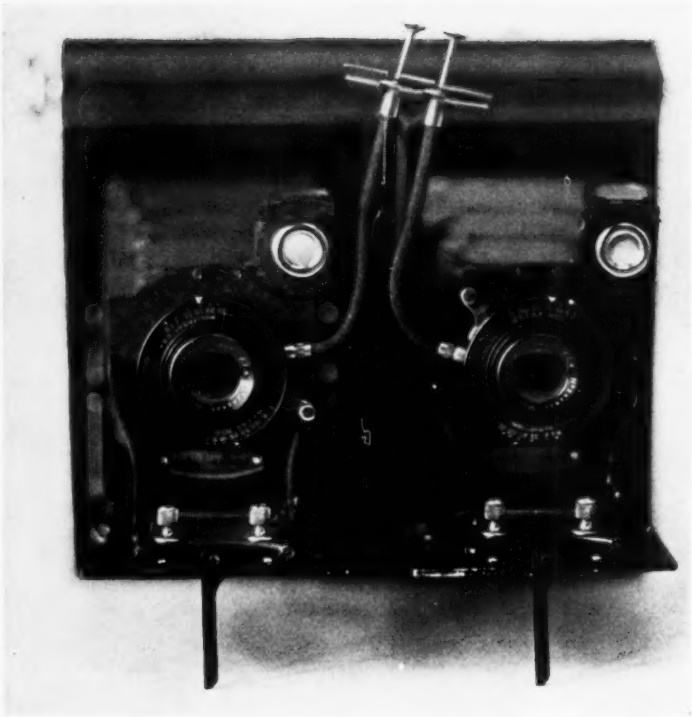


TWO BOX CAMERAS MADE INTO STEREO-CAMERA A. HEIN



SPECIMEN STEREO-PICTURE (Actual Size) A. HEIN

XUM



TWO FOLDING MODELS MADE INTO STEREO-CAMERA A. HEIN

attachment, it is necessary to cut two of the brass rods to an exactly equal length of about the width of the camera. The center connecting rod must be long enough to reach across when the two levers are in place and exactly parallel to each other. The point at which the two horizontal levers are attached to the cameras must be exactly over the pinions which actuate the shutter mechanism, otherwise the two shutters will not operate simultaneously. It will be necessary in following out these details of construction to remove the fore part of each camera to have access to the shutter mechanism, an operation which can be done quite simply by removing the nails from the sides of the cameras. As shown in the illustration, the cameras may be joined together quite rigidly by using small pieces of sheet metal bolted to the top and bottom, one for the fore part and one for the back of the camera.

Those experimenters in stereoscopy who may prefer a camera with a better lens may construct the bellows-type model at considerably less cost than the manufactured product of equal quality. Stereoscopically, the results will be found comparable with the more expensive commercial outfits, assuming, of course, that good judgment is used in selecting a suitable type of camera. The illustration shows a stereoscopic camera made from two small bellows-type models with F/7.5 anastigmat lens. This model has given the writer excellent results and has been found well worth the small amount of time required to construct it.

There are several different ways in which these cameras may be joined together, but the simplest is probably the use of small 5/8-inch bolts penetrating through the sides at the back portion of the cameras. The holes for the bolts, after being bored, should be countersunk so that they will not protrude on the inside, thus interfering with the action

of the rollfilm. Contrasting with the methods used in constructing the box-type model, both of these cameras are joined together in an upright position, the winding mechanism of one camera having been transposed from the right to the left side. This part of the construction requires a bit more time and attention; but it will be found that about the only tools required are a small chisel and a hand drill. It will be noticed that the lens on the left-hand side was turned upside down. This was done so that the cable releases on the two cameras would come closely together, permitting the use of a sheet-metal attachment for their simultaneous release in making a picture. Two grooves about ¼-inch wide were cut on each side of the metal, after which it was bent in the center to permit of only sufficient room for the entrance of the flange near the top of the cable. The advantage of using this type of attachment lies in the fact that it may be removed at any time and does not in any way interfere with the operation of the cameras if only single pictures are desired.

One of the factors to be considered in selecting cameras suitable for stereoscopic use is the size of the pictures that it produces. Too large a camera cannot be used, owing to the fact that the distance between lens centers should not, as a rule, exceed three inches. The inter-pupillary distance between the eyes ranges between two and one-half to three inches, consequently pictures made with wider lens separation will be found difficult to fuse properly when viewed through the stereoscope. The majority of the roll-film stereoscopic cameras of commercial design make pictures about three inches square—some of the pictures are slightly larger or smaller. Should the picture exceed the maximum size, the stereoscopic effect is only obtained with difficulty; hence, cameras making pictures 2¼ x 3¼ will be found particularly suitable for use.

In mounting stereograms, it is very important that the eyes see the pictures in their correct position; that is, the right eye will view the picture made with the right-hand camera, and vice versa. Should the pictures be reversed and mounted on the wrong sides, the effect will be pseudoscopic—objects in the background will stand out in apparent relief at a closer distance than the objects in the foreground. With a little practice, it will be found very easy to mount the pictures correctly; and when this cannot be accomplished by noting the differences between the views, they may be placed on an improvised stand in front of a stereoscope and viewed before mounting.

The art of making a good stereogram is based upon an understanding of its principles and the knowledge of what constitutes good photography. Stereoscopic photographs are valued most when the relief effect is pronounced and the general composition of the picture is such as to make it interesting. Relief cannot be obtained to the best advantage when the objects to be photographed are too far distant from the camera; hence, a foreground is always desirable, as it sets off the picture to much better advantage. If a picture of a landscape is being made, it will be found that by including a tree, or some other object in the immediate foreground, the value of the picture for its three-dimensional effect will be greatly enhanced.

## The Penalty of the Self-Reliant

Isn't this a topsy-turvy old world when the strong must bear the burdens of the weak and the intelligent supply thoughts for an unthinking multitude? But even more incomprehensible than either of these facts is the working of the unwritten law that punishes the courageous solely because they are brave.

That sounds like a contradiction; but is it? Don't we all at some time meet a problem that is too big for us and wish that we were able, like a small child with a cut finger, to run to some bolder and stronger person who would bind up the hurt and tell us that it is all well now? But there is something that holds us back, and with a little stiffening of the jaw we go our way. For this is our particular cross, and we will bear it even if we fall exhausted by the wayside.

But the real irony of life comes when some acquaintance sees our face, now composed and serene as we forge ahead, and brings us his problems to solve as well, adding, more likely than not: "*You* never are disturbed by difficulties or have such problems as mine. Your face shows the happy and comfortable life you lead."

And it is then that we really grin—albeit perhaps a trifle wryly at times—and offer what help we can. For we know that the brave cannot expect the sympathy of the weak, but must pay the penalty of their self-reliance. *Contact.*

*Official Photograph, U. S. Army Air Corps*

*Fairchild Photographic Airplane*

# Aërial Photographic Activities of the Army Air Corps

*Prepared by Information Division U. S. Army Air Corps*

ONE of the most interesting branches of work performed by the Air Corps, not only with regard to its military value but its employment in connection with civilian agencies, is that involving the use of aërial photography. In the military field it obtained its first great impetus during the World War. Aërial observation during the early stages of that conflict was carried on entirely by observers who reported what they saw below. As time went on, however, it was found that the photographic eye of the camera was better adapted for many purposes than its human counterpart. The photograph was accurate, it covered a wide field, it could be kept for an indefinite period of time, and the comparison of a series made at intervals indicated interesting developments which could be better ascertained in this manner than in any other.

The use of aërial photographs as a supplement to the work of the observer has a wide range of usefulness. Knowledge of what the enemy is doing and what are the dispositions of his troops and equipment is of vital importance to an army. The effect of artillery fire, the discovery of camouflage, and many other details of interest can be deduced from a study of aërial photographs. This work must be done by those who have had special instruction in the interpretation of the photographs, which is a highly specialised duty.

Interpretation of aërial photographs is explained in Training Regulations 210-10, which may be procured from the Superintendent of Documents, Washington, D.C., for 20 cents.

The analyses made not only discover facts, but may also be utilised to give evidence of what are the plans of the enemy forces.

Aërial photographs fall into two principal categories—those known as obliques and those designated as verticals. Oblique photographs, the type with which the public is most familiar, are made by pointing the camera over the side of the airplane, and show the view as it would appear if made from a high building. Those of most value are usually made at an angle of approximately thirty degrees below an imaginary

line running parallel with the earth's surface and passing through the center of the camera. They are particularly valuable in warfare for the purpose of familiarising the Air Corps as well as ground troops with the areas over which they are to operate and the changes which are taking place from day to day.

The uses of aërial photography in peacetime are manifold. Maps made by this means have been used by city-planning bodies in making provision for the future development

*Official Photograph, U. S. Army Air Corps*

*Captain A. W. Stevens with camera used to make long-distance aërial photographs*

of municipalities. It has proved valuable in the laying out of electric transmission lines. Large areas of land have been mapped, and this method has also been quite extensively used in making preliminary reconnaissances over isolated country in which mineral deposits are being sought. Oblique photographs are frequently employed for advertising purposes.

Vertical photographs are made by means of a camera which is ordinarily mounted inside the fuselage of the plane and points downward through a hole in the floor. It is obvious that while it is almost impossible to keep the camera pointing steadily in a precisely vertical direction, any considerable deviation from such a position must result in distortion and a lack of accuracy, particularly where a series of photographs are desired.

The area covered by a single exposure is determined by the altitude of the plane above the ground and the focal length of the lens used. It is often desirable to cover a larger surface and, in this case, the usual procedure is to make a succession of overlapping exposures at regular intervals, the prints from which are mounted in their proper position in relation to each other, and which form what is known as a strip-map or a mosaic, which may cover a wide area of ground. When assembled with accurate controls, mosaics may be utilised to form accurate maps.

Another method of operation consists in taking composite vertical photographs. This is done by assembling two or more aërial photographs made at one exposure by a multiple-lens camera, and printed and mounted in such a way that the assembled photographs form the equivalent of one made with a wide-angle lens. The camera used has one lens pointing vertically downward and two or more in an oblique direction. The resulting oblique photographs are projected into the plane of the vertical photograph by means of a transforming printer. The advantage of this camera is that, with three lenses tangent to a wide arc, it covers a very

*Official Photograph, U. S. Army Air Corps*

*Side of plane removed to show installation of camera*

wide territory. For instance, at 15,000 feet altitude, the field of view is 9.4 miles across. Cameras of the type used in making composite vertical photographs ordinarily have three or four lenses, although in one which has been experimented with the number has been increased to five. This method is frequently used in large mapping projects. Training Manual No. 2170–6 is a valuable reference book on aërial photography, and may be procured from the Superintendent of Documents, Government Printing Office, for 55 cents. It describes the cameras in detail and also the methods employed in aërial mapping.

Single photographs show objects in one plane. Stereograms are overlapping pairs of either vertical or oblique aërial photographs. Their value lies in the fact that they will show up the relief in a photograph, and allow us to view the picture and see it just as we would see the object itself. Stereoscopic photography employs the principle underlying binocular vision. The human eyes are about two and three-fourth inches apart, and this double vision gives us a sense of relief or depth in all objects we view up to a certain distance. Beyond this certain distance the two eyes receive visions which merge, and we receive an impression more like a single photograph than a stereoscopic view.

The ordinary stereogram is produced by photographing an object with a camera having two lenses approximately three inches apart. This gives a double or an overlapped picture of the object which, when viewed in a stereoscope, is reproduced to the eye as a single photograph that gives the sensation of relief. In aërial photography the same principle is employed, but it is exaggerated. Owing to the distance from the lens to the object photographed, when making pictures in the air a double-lens camera with lenses several inches apart would not produce this stereoscopic effect. For that reason, in aërial photography this effect is obtained by making two photographs at some distance apart from the same altitude. Overlapping photographs show exactly the same areas, but slightly different views of it. When viewed together through a stereoscope, with the two pictures on their proper sides in the order in which they were made, the stereoscopic effect is obtained.

Thus relief of buildings, depth of valleys, and all such features are immediately brought out and understood. Naturally, stereograms or stereophotographs are a great aid in the interpretation of aërial photographs, as they enable one to realise the relief of the ground.

The cameras used are the result of much ingenious development. That employed in making composite vertical photographs has already been described. That generally used in making verticals contains a long roll of film. Exposures are made automatically at intervals previously determined, ranging from ten to ninety seconds between exposures. This interval will be determined by the airspeed of the plane, strength and direction of the wind, which determine the plane's ground speed, and the altitude at which the photograph is made. There is also a device for notifying the pilot and observer a few seconds before the time of exposure, thus allowing the pilot to level the ship and the observer to maintain the axis of the camera

in a vertical position. The automatic device may also be disconnected and the exposure made when the observer desires.

The planes used are specially designed for the work, a number of Fairchild single-motored cabin planes having been bought by the Air Corps for the work. Camera mountings are important fittings, it being necessary that they should eliminate vibration as much as possible and, in the case of vertical photographs, enable the observer to keep the camera axis as nearly in the vertical as possible. Sponge-rubber pads and shock-absorber cord are generally used to dampen vibration.

The pilot should have special training in the technique of flying a photographic ship. It is only after considerable experience that the best results are obtained. Then, too, in order to achieve success, the pilot and photographer should have worked together, so as to be familiar with each other's methods. In this as in other fields, the best results are obtained by teamwork.

Although not directly used in aërial photography, an interesting development in the use of photography in aircraft is the gun-camera and time-registering device. This is used for the purpose of training personnel in the use of machine guns, and is mounted in connection with the guns. When the trigger is pulled, instead of bullets being fired, a series of photographs are made, which show the number of hits that would have been made had ball ammunition been used. In the case of a simulated contest between two or more aircraft, the time-registering device shows the exact time at which the first vital shot was fired, thus permitting the winner of the combat to be determined.

The Army Air Corps has been a pioneer in the development of aërial photography. At the experimental plant of the Matériel Division at Wright Field, Dayton, Ohio, a complete laboratory is maintained, which is continually endeavoring to devise new applications and improvements in the art. Either alone or in co-operation with commercial organisations, Army technicians have been responsible for numerous advances in construction and technique. Noteworthy among these have been the development of high-altitude and long-distance photography, as well as the making of photographs at night.

Foremost in the development of high-altitude and distance-photography has figured Captain A. W. Stevens, Air Corps, who with Captain St. Clair Street shares the distinction of having reached the highest altitude ever attained in an airplane carrying two occupants—37,854 feet. Captain Stevens, in recognition of this high-altitude flight and for his efforts in long-distance photographic flights, was awarded the Mackay Trophy for 1929, this being an annual award for the most meritorious flights made by Air Corps personnel. In high-altitude flying, the photographs made cover a tremendous area, as much as 33 square miles, and they are remarkably clear as to detail, permitting of enlargements being made to ten diameters. At these high altitudes, owing to the thinness of the atmosphere, human life can be sustained only through the use of oxygen which is carried along. Very low temperatures are encountered, running as much as 60 or 70 degrees below zero.

Although exploits of this kind may at first sight appear of little value, they are nevertheless of decided importance. At altitudes

*Official Photograph, U. S. Army Air Corps*

*Showing area covered during flight to make photographs for aërial mosaic maps*

of five miles or thereabout—airplanes are inaudible and, except in certain cases when the moisture in the exhaust is frozen into a kind of cloud streamer, also invisible. Photographs could thus be made over enemy territory without the presence of the photographic plane being even recognized.

Closely allied with high-altitude photography is that which involves the making of photographs at long ranges. Up to date, the record distance covered in work of this kind is believed to have been attained during the Air Corps Field Exercises at Mather Field, Calif., in April, 1930. At that time photographs made from an altitude of 20,400 feet over a point near Crater Lake, Oregon, show very distinctly Mount Rainier, in Washington, an airline distance of 270 miles. The mountain was not visible to the human eye because even on clear days the atmosphere contains sufficient haze to limit vision to less than 27 miles. These remarkable results are obtained through the use of special film sensitive to the invisible infra-red rays which penetrate smoke and haze. Special filters are also placed over the lens and are frequently used in taking vertical photographs as well. [According to a recent news dispatch, Captain Stevens has beaten his previous long-distance photographic record. We quote: "One clear and frosty morning in September, Argentina's midwinter, while flying toward Villa Mercedes, the expedition's airplane climbed to an altitude of 21,000 feet. Poking his heavy camera over the side, Captain Stevens snapped a long-distance portrait of Mt. Aconcagua, 320 miles away. Upon developing this film the white mountain peak, as far away as Albany is from Washington, showed plainly, supported by the massive Andean range."—EDITOR.]

Another branch of aërial photography in which the Air Corps has made remarkable progress has been in the making of photographs at night. Development work in this field was done in conjunction with the Eastman Kodak Company, the principal Army representative having been Lieutenant George W. Goddard, Air Corps. Lieutenant Goddard's article, "Unexplored Philippines from the Air", in the *National Geographic Magazine* for September, 1930, is worth reading. Night photographs are made by firing a large charge of magnesium powder with automatic means for tripping the camera at the point of maximum intensity of the flashlight. Were the camera shutter to remain open for any considerable length of time, awaiting the flash of the magnesium bomb, the resultant photograph might show a blur caused by lights on the ground, especially in the case of night photography over any well-lighted city. Therefore, a photo-electric cell is an accessory to the camera. A magnesium bomb is released from the plane, and two seconds after it has been released on its small parachute, a time-fuse explodes it. At the point of highest intensity of light the photo-electric cell reacts and trips the instantaneous shutter of the camera. The flash-bomb contains 25 pounds of magnesium powder. The value of night photography in warfare is, of course, manifest. The world's first night reconnaissance strip mosaic was photographed in pitch darkness on the night of June 27, 1930, in connection with the work of the Department of Photography, Air Corps Technical School, Chanute Field, Rantoul, Ill.

Apace with the development of night photography has come the working out by the Air Corps of a process of quick-work photography by means of which it has been possible to reduce the minimum time, from the exposure of the film in the camera until the finished photograph is dropped from the plane, to seven minutes; but usually from nine to ten minutes is advisable in order to ensure most perfect results. After the pictures are finished, they are dropped in a special message tube with a pocketed streamer, somewhat in the form of a miniature parachute. Completed photographs can in this way be delivered in field operations to those needing them much more rapidly than by the former method of having the negatives developed and prints made at the squadron's base of operations. In this work a special dual-purpose film is used—one which is a negative by transmitted light and a positive by reflected light. Prints may be made from this if desired after examination by the ground forces.

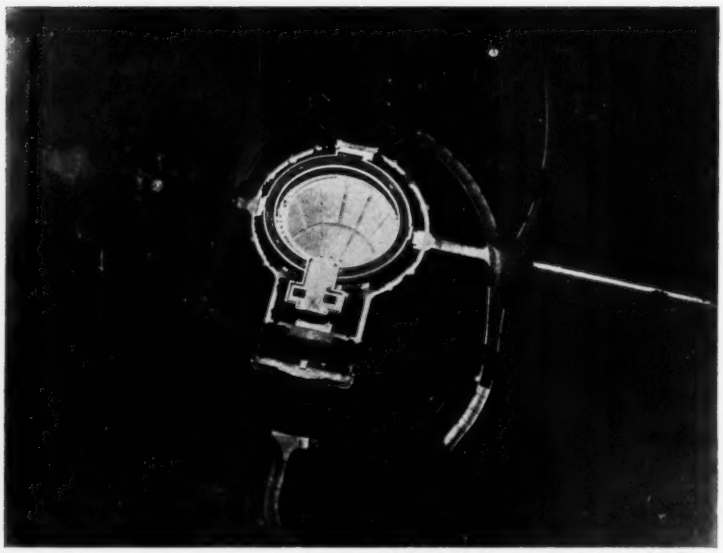
An interesting demonstration of the combination of night photography and the quick-work process was given when night photographs of prominent points in Washington were made on March 3, 1929. In this case, the photographs were made and the message tube picked up and taken to the office of the American Telephone and Telegraph Company, where it was placed on the transmitting roll or drum of the telephoto apparatus and immediately sent by wire to



*by Lt. John Corkille, from an altitude of 20,000 feet*

*Official Photograph, U. S. Army Air Corps*

*Army Air Corps scores new photographic record in making photograph of Mt. Rainier from over Crater Lake, a distance of 270 miles. No. 1—Mt. Rainier; No. 2—Mt. Hood, 200 miles; No. 3—Mt. Jefferson, 175 miles; No. 4—Three Sisters, 125 miles; No. 5—Diamond Peak, 50 miles; No. 6—Crescent Lake, 45 miles. Photograph made by Captain A. W. Stevens from an Army plane piloted by Lt. John Corkille, from an altitude of 20,000 feet*



*Official Photograph, U. S. Army Air Corps*

*Arlington Amphitheater photographed from the air at 9.30 P.M.*

eight of the principal cities of the United States. They were then recopied and 25 positive prints were struck off and delivered to Army Air Corps representatives for distribution to the press.

During the Field Exercises of 1930, an aërial photograph was made of the City of Sacramento, Calif. The negative was developed in the airplane and dropped within twelve minutes to a waiting newspaper representative. The photograph was reproduced in the newspaper, which was on the streets within an hour. This is believed to be record time.

The photographic work of the Air Corps is not restricted to military duties, but wide co-operation has been extended to other branches of the Government and even to outside agencies. Most extensive of this work has been the aërial mapping carried on in conjunction with the United States Geological Survey, which has for many years been engaged in the production of a topographic map of the entire United States. During the last fiscal year, Air Corps photographic units photographically surveyed an area of 11,500 square miles, turning the results over to the Geological Survey. Similar work was recently completed in Maine, Michigan, Montana, and Washington State. During the same fiscal year, aërial surveys covering 1,500 square miles were made for the Coast and Geodetic Survey, which has charge of the preparation of maps of our coasts and harbors.

Other governmental departments have also been aided. A large area in the vicinity of Phoenix, Ariz., has been mapped in connection with the work of the Smithsonian Institution on the prehistoric canals of that region. A survey was also made of the Rio Grande River from El Paso, Tex., almost to the Gulf of Mexico, for the joint use of the International Water Commission and the International Boundary Commission.

These operations have been responsible for enormous savings. The work for the Geological Survey, for example, has provided not only for the bringing up to date of maps made many years ago, but for the mapping of entirely new sections. Although the Air Corps is authorised to make a charge for part of the cost, its extensive research and the services of its personnel are direct contributions to the other departments.

Somewhat more unusual was the work of two photographic units during the eclipse of the sun on April 28, 1930. One operated near Reno, Nev., in conjunction with Pomona College, and the other in Western Central Cali-



XUM

fornia in co-operation with the Lick Observatory, making motion and still photographs of the eclipse. The authorities of Pomona College stated in effect that these photographs were invaluable as an aid in astronomical research.

The Air Corps has also shown a willingness to aid outside organisations in the development of their activities. From the photographic point of view, this included granting leave to Captain Albert W. Stevens to join the expedition of Dr. Alexander Hamilton Rice in exploring some of the hitherto unknown headwaters of branches of the Amazon River, and several years later to assist the National Geographic Society in exploration work in South America. Although he was not on the active list of the Army at the time, Captain Ashley C. McKinley, Chief Photographer for the Byrd Antarctic Expedition, was an Army-trained photographer and a member of the Air Corps Reserve.

So great has been the demand of the Press for aërial photographs to illustrate news items and feature articles on the work of the Air Corps that each year the Office of the Chief of the Air Corps in Washington issues many thousands of photographs for this purpose. These are all views of flight formations or other military subjects, for the Air Corps cannot distribute its photographs of non-military subjects unless they are to be used to illustrate an article on photography or aviation. This restriction is to avoid placing the Air Corps in competition with many aërial photographic concerns which are established for the purpose of making and selling aërial photographs.

Not only is the subject of aërial photography an interesting one, but it is a highly technical one to those engaged in it. The Air Corps maintains a photographic school at Chanute Field, Rantoul, Ill., for its officers and enlisted men. Annually the men graduated from this school are ready to command or take their place in any of the Photo Sections which carry on work for the Army Air Corps.

# The Photographic Adventures of Bert and Ray

## XXII Experiments in Negative Reduction

NEIL WAYNE NORTHEY

(Last month we read about the first experience of Bert and Ray in intensification, which proved to be so satisfactory that they resolved to visit Mr. Harley, the local photographic dealer, for the purpose of obtaining information and chemicals that would prepare them to spend their next "camera day" experimenting with reduction. And so, while an April shower pelted the window of their basement workroom, giving a feeling of cosiness inside, the boys began the work they had planned.)

ELL, I guess the first thing to do is to sort this bunch of dense negatives into piles according to the treatment we will give them", said Bert. The "dense negatives" that Bert referred to were the ones he had sorted out at the previous meeting, when he chose the ones he intensified that day. The dense ones had been kept in a separate package in readiness for this day that was to be spent experimenting with reduction.

"Yeh", agreed Ray, "we will start one pile for the extremely dense ones, and another for the ones with contrasty lighting, or which are contrasty because of under-exposure and over-development, and a pile for the ones we do not care much about, which we will use for practice purposes."

"I believe I'll follow Mr. Harley's suggestion and reduce some of these that are slow printers. Now, take this one, for example. I can get a good enough print from it as it is; but it takes too long, and especially if I wanted to make an enlargement."

"That's a good idea", said Ray. "I think I'll start a pile for that kind myself."

"What do you say we start some of these dense ones to soaking in hypo, and then they will be ready for the reducer when we are ready?" said Bert.

"Let's see", said Ray. "Those are the ones to be reduced in Farmer's reducer; aren't they?"

"Yes; by rights, such negatives should be reduced at the time of development, right after they are taken out of the fixer and before they are washed. But Mr. Harley said they would be all right if we soak them a half-hour or so in a clean hypo-bath."

"Oh, yes; Farmer's reducer is the one that acts evenly over the whole plate—thin and dense parts alike", said Ray.

"And it appears to reduce an extra amount in the shadows for the reason that they, being thinner, are eaten up, or exhausted first, so to speak", added Bert.

"Do you remember those flat negatives we saved out when we were intensifying, which we said we might try different methods of intensification on, to see which was best?" asked Bert.

"Yeh."

"Well, Mr. Harley says they should be reduced in Farmer's first to increase contrast and give them some snap, and then intensified. That's the first time I ever knew a negative could be improved by both reduction and intensification."

"I learn something every time I go into Mr. Harley's store", said Ray. "He gives away a dollar's worth of information with every purchase. Just look at all of these notes I made while we were talking with him!" And Ray indicated several pages in their darkroom notebook.

"I guess we're ready to mix some Farmer's reducer and try it out", said Bert. "According to the formula Mr. Harley gave us, we need one solution consisting of 2 ounces of ferricyanide of potassium dissolved in 4 ounces of water, known as A, and another solution known as B, which is a saturated solution of hyposulphite of soda. Suppose you mix the first while I make the saturated solution of hypo."

"All right", said Ray. "Maybe I had better use this amber bottle for the ferricyanide solution. Mr. Harley said it was necessary to keep it in a dark place or wrap it in black paper or it would deteriorate very rapidly. And it has to be used in artificial light for the same reason."

"Perhaps we had better darken the window and turn on a light while we use this reducer", said Bert. "Here are some more instructions for using Farmer's reducer. 'Rock the tray slowly both ways during reduction or the plate will be streaked. Wash frequently under the tap and examine, as this reducer works very rapidly. Never try to inspect a negative without first washing off the reducer, or it will run and streak!' Mr. Harley said it was rather hard to tell just when to stop reduction, and that is another reason why the reducer should be washed off each time, or the reducing might proceed too far while the inspection was being done."

"I'm ready to try one of my negatives", said Ray.

"All right; take 1 ounce of the saturated solution of hypo, 8 ounces of water, and 1 dram of the ferricyanide stock solution A. That should give a mixture the color of lemon. If it is orange, it is too strong for ordinary work. A strong solution is good for reducing negatives where extreme contrast is wanted, such as line negatives; but it should be weak for average work, in order to save the shadows."

Ray placed a negative in the solution in subdued light, and within a few seconds he decided it had been reduced enough. The negative was then washed and fixed for about ten minutes in the usual way.

"This negative appears to be sort of yellowish", said Ray, as he held it up for inspection.

"That is a sign there is not quite enough hypo in the reducing bath", said Bert. "Mr. Harley said most of the yellow color could be removed in a 10 per cent solution of potassium metabisulphite if it were not too bad."

"I'll try another", said Ray, after he had put the first negative to washing and had added a little hypo to the reducer.

"You know this is the reducer which Mr. Harley recommended for reducing negatives locally", said Bert. "Instead of covering the negative all over with the reducer, after it has soaked in hypo for a half-hour or so, the surplus is drained off until the surface of the negative is free of liquid, then the reducer is applied to the dense parts with a small camel-hair brush dipped into the solution, and later the surplus rolled out of it against the tray. If it spreads on the negative, it must be washed off instantly under the tap. Mr. Harley says that sometimes it helps the appearance of a negative if the whole thing is immersed an instant in the reducing bath at the finish, to sort of even it off. And, of course, it must be soaked ten minutes or so in hypo and then washed before it is dried."

"I have another method of reducing dense negatives, which I saw in a back number of PHOTO-ERA," said Ray. "It's what they call rehalogenisation."

"Rehalogenisation! What's that?" Bert asked.

"It's a method whereby the silver image is reconverted by changing it back into a haloid salt, after which it is redeveloped to the density that is wanted."

"I should like to try it for the sake of comparison", said Bert. "Is it a complicated process?"

"Not at all", replied Ray. "On the other hand, it is claimed for it that it is simple and certain, all parts of the plates reducing at a uniform rate, and the relation between the various tones remaining unchanged. It is especially recommended for hard negatives."

"Just what is the procedure?"

"Here are the notes I outlined from the article. First, the image is reconverted by bleaching it thoroughly, the same as we did when we were intensifying those negatives, using a solution composed of 16 grains of potassium ferricyanide and 24 grains of potassium bromide in 4 ounces of water. After it is completely bleached, it is washed until the lemon-yellow color disappears, after which it is redeveloped in an alkaline developer, such as rodinal or pyro-soda, until the desired density is reached; if it is developed too long, it will return to its original density and have to be done over. When it is as dark as is wanted, the negative is rinsed rapidly under a tap, or through several quick changes of water, and then it should be fixed and washed as usual to dissolve out the salts that remain after redevelopment. Now, the strange thing about it is that the entire operation may be done in a well-lighted room, and the negative *must be* exposed to daylight during development."

"Well, it sounds interesting, and it may be just what we need for some negatives", said Bert.

"I believe I'll see what I can do with some of these underexposed, overdeveloped negatives", said Ray. "They are so contrasty that they make prints that look like 'soot and whitewash', as the experts say."

"Those are the kind to use the persulphate of ammonia formula on", said Bert.

"Yeh, the kind of reducer that works on the denser portions first. It seems as if a negative with weak shadows should be intensified to strengthen them; but Mr. Harley says not. It is better to reduce the dense parts and then it will not be necessary to overprint the shadows until they are black in order to get some detail in the highlights."

"That's the reducer, Mr. Harley recommended also for use on contrasty lightings, such as white dresses against dark backgrounds", said Bert. "But he said it was sometimes erratic in its behavior."

"When that happens it's probably due to the plate not being absolutely free from hypo, or because it wasn't rinsed well before it was inspected, and the reducer caused streaks where it ran across the negative."

"It seems strange that one reducer uses hypo in the formula, while with the other a trace of hypo will absolutely spoil it."

"Yeh, and don't forget we must use a different tray for these different formulas until we can scrub them all clean again!" cautioned Ray.

"Well, let's see", mused Bert, as he went over that part of their notes pertaining to persulphate reducer. "'Place the negative *dry* in a solution composed of 10 grains of ammonium persulphate for every ounce of water'—say we mix 40 grains in 4 ounces of water and try it out on a negative. We'll have to mix it fresh for each batch, anyway. 'Rock the tray gently to prevent streaks, rinse in water when sufficiently reduced, then place for 5 minutes in a solution made of 1 ounce of sodium sulphite in 10 ounces of water. Then wash and dry.'"

"I wonder what's the idea of placing the plate in the reducer while it's dry", said Ray. "It seems to me it would take hold better if the emulsion were soaked."

"I asked Mr. Harley about that, and he said that when the negative was placed in the reducer dry, it started right to work on the dense parts; but it took it longer to get in to the weak spots, or something like that."

"I wonder how to tell just when it is best to use Farmer's reducer and when persulphate should be used on some of these thick negatives", said Ray.

"As I remember it, Mr. Harley said that if they were too contrasty, we should use persulphate, otherwise use Farmer's."

"Or perhaps we might try using persulphate on some of them by soaking them first instead of placing them in it dry. Maybe that would be a happy medium between Farmer's and starting them in persulphate while they are dry."

"Maybe so", said Bert. "We might try it on some unimportant negatives."

And thus passed another interesting and helpful "camera day", another step into the realm of photography and toward the making of better pictures.

*(To be continued)*



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# The Making of Pictures by Photography

**Number Seven—Improving the Print by Water-Color Masking**

CLARENCE PONTING

ALTHOUGH, in expert hands, the oil-reinforcement process will permit all the modifications required by the pictorial worker, there may be readers who would like to try a somewhat simpler method of attaining the same end by a different means. This can be accomplished by means of water-color masking on a printing-out paper. All masking, as used in photography, is done with the object of holding back some part of the image during printing—in some cases to prevent the paper from printing at all, as when a white border is desired around a print.

The object of water-color masking is the same; that is, to hold back certain portions of the printed image by covering them with non-actinic water color, so that the unprotected portions can be darkened by further light-action. That is the little dodge I hope to be able to teach in this article. I believe I can take the credit of being the originator of the idea, which I first used for masking intricate light-toned horizons when it was desired to introduce clouds.

Every pictorialist knows the landscape in which the distance is rendered in very light tones. Masking such a negative is difficult, if a hard line is to be avoided; and, unless masked, the cloud-negative overprints on the light horizon. In a printing-out paper these light portions can be protected from light-action by the application of water-color pigment, and clouds printed in without any overlap. It was but a step to an adaption of the method to other purposes.

I found it particularly useful in the case of portraits of sitters attired in light costumes, which had been made against a light-toned background. If the exposure had, of necessity, been curtailed—as when photographing children—the clothes would often be merged into the background in the finished print, although they were faintly discernible before the action of the toning bath had reduced the delicate details. By covering the details of the clothing with a protective water color, it was possible to darken the background slightly by a secondary, brief exposure to daylight. When the paint was washed off and the toning action completed, the result was wonderful, the figure standing out boldly from the background.

No matter what the subject, the method of masking remains the same. A print is made on a piece of self-toning collodion printing-out paper, it being somewhat difficult to wash off the paint from a gelatino-chloride paper. This should be printed of a sufficient depth to allow of reduction in the subsequent fixing operations.

Imagine Figure 1 as a print made upon self-toning printing-out paper, but unfixed, as it appears when removed from the frame. It is now taken into a room in which the daylight is sufficiently diffused to prevent any light-action on the paper, if left uncovered for a quarter of an hour. The drawing of the curtains will generally effect this, or the masking may be done in artificial light. Photopake, in cake form, a preparation sold

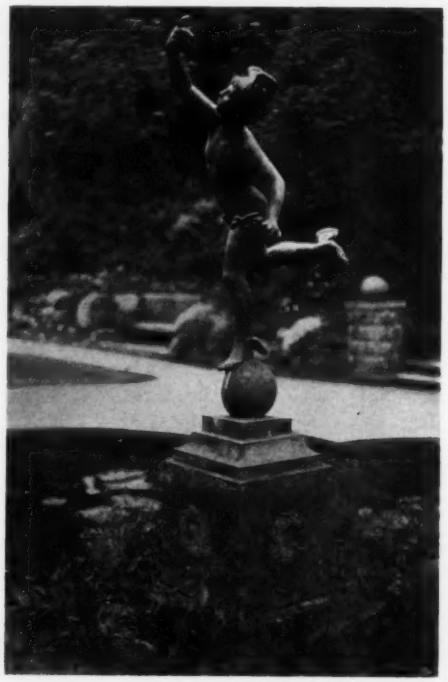

FIGURE 1 CLARENCE PONTING

*Straight print from negative*

FIGURE 2 CLARENCE PONTING

*Statue covered with protective mask of water color (See text)*

for blocking out portions of the negative, is the ideal water color for the purpose. It is perfectly opaque, easy to apply, and dries quickly, having no chemical action on the silver image, as have some pan water colors.

The fault in the unworked print lies in the fact that the statue is mixed up with the distracting background, the foliage of which was all a-glitter with the sunlight reflected from the leaves. As seen by the eye, the figure stood out prominently, being strongly illuminated in sunlight. In order to produce this effect in the print, the background must be darkened without affecting the exposed image of the statue. In short, the statue must be masked to prevent light-action during the darkening of the background. A No. 0 sable water-color brush is charged with the Photopake and the statue outlined with the point of the brush, filling in this outline with a larger brush and Photopake. When this is done, the print will appear as in Figure 2. When the paint is dry, a rough black paper mask is cut to protect the remainder of the image, allowing the paper mask to well overlap the painted one. Of course, the whole of the parts to be protected could be covered with the paint. The paper mask is only used to economise the Photopake.

The protected print is then placed in a printing frame fitted with a clean glass, which is then taken into subdued daylight until sufficient degrading of the background has been accomplished. Sunlight is too penetrative, and might result in discoloring portions which were only thinly covered with pigment.

The print, on being removed from the frame, is placed in the washing water which precedes fixation. In this water the paint is rubbed off by means of a tuft of wetted cotton. The result of the masking may be judged at this stage. If any small errors are seen, they can be matched by means of water color when the finished print is dry. If the fault is large, it is a saving of time to make a fresh print rather than to match on the finished picture. Upon a suitable print being made, it will save much future work to make a copy negative from which enlargements can be made.

Like other methods of control, this one is suitable only for certain subjects. It is particularly adapted to portraits and figure subjects, or where some principal object is required of a lighter tone than the background. The degrading should not be carried too far. Very little is needed to emphasise the main feature. In the illustrated example, I have purposely made the background rather dark in order that the contrasts may be retained in the halftone.

In landscape subjects it will be found a great help, where it is desired to keep the attention focused on a group of trees in the foreground. Photographers of orchards, or fruit trees when in bloom against a dark-blue sky, will find this method very effective in giving the effect as seen by the eye. Even with a panchromatic plate and suitable filter, it is difficult to obtain this rendering of the blossoms against a gray ground, as wind will not permit of a sufficiently full exposure at small apertures. If the blossoms are protected with the water-color paint, and the sky is very slightly degraded—or clouds may be printed over the protected boughs, if desired—they can be made to stand out in a wonderfully realistic manner.

Naturally, care is needed when applying



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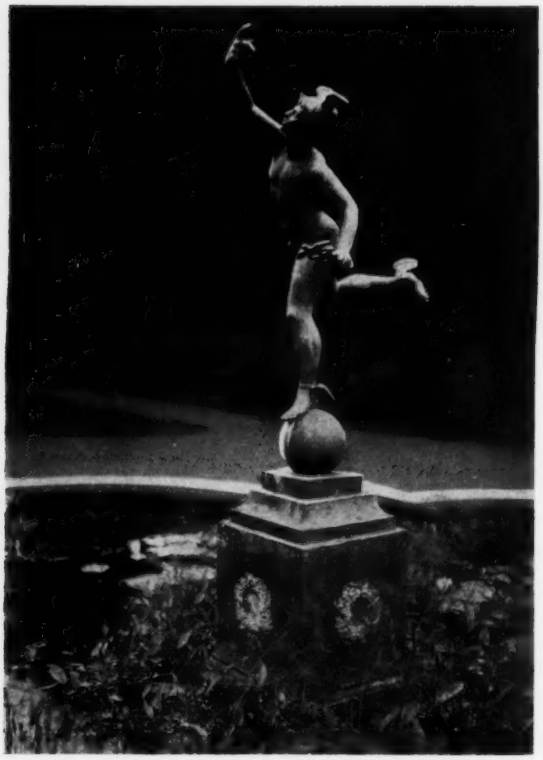

FIGURE 3 CLARENCE PONTING

*Finished print after masking*

the paint, coupled with a steady hand; for should the paint cover any of the background, that part will fail to print and the handwork will be evidenced. Working under a large reading glass is extremely helpful, and is advised where any fine detail work has to be covered.

Like everything else in photography, the method at first sight appears extremely simple, and the tyro may commence with a light heart and in the end condemn the process through faults entirely of his own making. Absolute cleanliness is essential, or the print will be a mass of finger marks, stains, and irregular patches which repel the action of the fixing-bath. In covering the image with paint, a great deal of care is needed in handling the print. If the hands are at all inclined to perspire, the print should be handled only by its edges, placing a piece of clean blotting paper over the portion of the print on which the hand will rest during the covering operations.

Photopake is the only water color that I have found suitable for the painting operation. Ordinary colors appear to have some chemical in their composition which affects some makes of printing-out paper. It can be obtained from most photographic dealers, and should find a place in every photographer's kit, as it is a splendid opaque for all operations on the film of a negative, such as blocking out, or spotting pinholes or other defects.

I THINK the first virtue is to restrain the tongue; he approaches nearest to the gods who knows how to be silent, even though he is in the right.

CATO.

# Speaking of Photography

## III—Down in the Cold-Closet Darkroom

A. H. BEARDSLEY

LIMITATIONS of space in this issue prevent my including an illustrated article; so I shall have to content myself with a short reference to my cold-closet darkroom in the cellar. Before the days of modern ice and electric refrigerators, the New Englanders utilised the coolest parts of their cellars to store vegetables, fruits, and canned preserves. Usually, this section was sheathed or walled off from the rest of the cellar; and even in the warm summer weather, the so-called cold-closet remained at a temperature cool enough to keep food for a considerable length of time without damage. It so happened that in the house which I now occupy the only available spot for a darkroom was the cold-closet in the cellar. We moved in during the month of June, and all summer my darkroom was the coolest and most comfortable spot in the house on a hot day or evening. However, when the winter months set in, even with a furnace in full operation, that cold-closet darkroom still remained the coolest spot in the house. I had the darkroom nicely fitted up and arranged; and there was plenty of room for everything. There was no other satisfactory room in the house where I could work away as early or as late as I chose without being subject to interruption. Obviously, I had no desire to shift my equipment, nor to take it down and set it up every time I had a few enlargements to make. Yet that cold-closet darkroom in December became cold, and in January colder still. Please understand, I do not mean simply chilly, but really cold, so that one's breath could nearly always be seen, even on comparatively mild days. It was apparent that in order to continue the privacy and convenience of my darkroom I must adopt ways and means to overcome the low temperature for my own comfort and the efficiency of the chemical solutions I used.

Those of my readers who enjoy the luxury of well-appointed and heated darkrooms will doubtless be interested to note the methods I adopted to meet the situation. In the first place, when of an evening I wished to make a few prints or enlargements, I put on my high overshoes to keep my feet warm. Then I put on my sheepskin coat and an old cap. Next an oil stove was lighted to take off the worst of the chill. The stove, even with the best of intentions, could not really heat the cold-closet. The trays to be used were placed on the furnace to warm them, and after the solutions were mixed I often put tray and all in the open furnace door to bring them up to the correct temperature. After making a few prints or enlargements, the developer would have to be heated again, as the solution would very soon become too cold for satisfactory results. To be sure, it was somewhat of a bother to go through with this program every time I used the darkroom; yet there was no choice in the matter. Perhaps the strangest part of it all is that I obtained very satisfactory results. I used Agfa Rodinal for my developer and the familiar Kodak acid fixing bath in pound packages. When the Rodinal began to slow up or the tone of the enlargement was not what I wanted, the developing tray was thrust into the open furnace door for a few minutes and all was well again. This procedure is not suggested as being ideal or even advisable; but it does prove the point that photographic work may be carried on under considerable handicaps, when necessary.

I almost neglected to state that my cold-closet darkroom does not have running cold and hot water. In fact, all water used for solutions is obtained from a garden-hose faucet in another part of the cellar. I have a white-enamel gallon pitcher which serves admirably for the transportation of water. However, when it comes to washing negatives and prints I use a large white-enamel tray in which I carry the "wash" up stairs to the kitchen-sink, where there is plenty of running water. To be sure, I have to take many extra steps; and, sometimes, after several hours of work under these rather primitive conditions, I feel like finding another place for my darkroom. Nevertheless, the next day I am glad that all my photographic equipment is just where it is, and out of other people's way.

It so happens that my radio in the living-room upstairs can be clearly heard in my darkroom, and many a negative and print has been developed while enjoying the evening radio broadcasts. At times, when a nega-



XUM

tive is partly developed, there will be howls of protest from the radio when some neighbor down the street tunes in; and I am helpless to stop the uproar until the plate is safely in the hypo. However, this is all in the evening's work and gives me an opportunity to get warm before returning to the chilly darkroom.

My object in writing this little story is by way of encouragement to those who may feel that if they cannot have just what the photographic textbooks advise for a darkroom, there is no use doing one's own photofinishing. I believe heartily in having a well-appointed darkroom where work may be done with accuracy and personal comfort; but I also believe as strongly in making an effort to overcome handicaps when ideal conditions cannot be had. I much prefer my cold-closet darkroom to using the bathroom, which may be warm but which also carries with it the possibility of interruption at a point in the evening's work when several prints or negatives may be ruined by a hurried attempt to protect the films, plates, or enlargements from light while the bathroom is lighted temporarily.

It may be a bit of a jolt for some of my readers to learn that my photographic work is carried on under what seem to be very crude methods. However, if the truth be told, there are many others who are obliged to meet similar conditions, and yet may have their pictures hung in the leading salons. It is not always the pictorialist with everything to do with who turns out the best pictures. It may be some comfort for my readers to know that I have no advantage over them in either equipment or darkroom. It might be assumed that I had everything there was to have for my photographic work, but I am glad to say that I have not. For this very reason, I believe that I may have a more sympathetic understanding of the problems which often confront my correspondents. After all, I much prefer to feel that I am one of the family rather than some austere personage who seems far removed from the everyday problems of amateur photographers. In conclusion, there is a tremendous amount of satisfaction and pleasure in overcoming obstacles, even though the world at large never knows of the hard work nor of the success achieved.

FISH-SHACKS OF ROCKPORT — RAYMOND E. HANSON

THE MYSTIC LAKE — RAYMOND E. HANSON

# Notes on Landscape Values

RAYMOND E. HANSON

THE maker of a landscape picture, in whatever medium, has a number of essential elements to consider. His work has to have a certain degree of arrangement to rescue it from the chaotic; the distribution of light and shade must be properly adjusted and a harmony established between the various parts. When attention is being directed to these items, the operator is composing. Composing, however, does not end here. In order to compose, one must be familiar with the various tones or values to be rendered.

In photography, the range of values is between extreme black and pure white, but in most pictorial work the entire range of tones is seldom used. Even the darkest black could be blacker and the lightest tone could be whiter. The exercise of restraint which this implies is commendable, for it is not a pleasant sensation to feel that the limit of the scale has been exhausted and that no higher or lower note is possible. When this limit has been reached, the beholder, in most cases, will feel the strain, as when a singer reaches the very greatest volume of sound of which he is capable, and one feels that he has reached his limit, with no power in reserve.

Between the extremes of black and white are many tones and halftones which may be utilised in pictorial photography. These tones or values are a study in themselves, and upon their proper relation one to another depends the success of the print. The values in the print should have a semblance at least of actual truth to those in the scene depicted. Naturally, the pitch of the work has a modifying effect upon the values; but whatever the pitch, high key or low key, the relation of the values in the print must approximate the relation of the actual values to each other in order to produce the effect of a satisfactory pictorial landscape.

We sometimes see paintings in which the values and the drawing are obviously all wrong, and we are told that this is all right,



XUM

because the artist is being quite "naïve". To be consciously naïve—naïve with intent—seems to me incomprehensible. It may be likened to a sophisticated woman of fifty lisping baby talk, which is not impressive.

Be that as it may, it is generally conceded, I think, that a knowledge of correct values is an important part of any artist's mental equipment, and the use he makes of this knowledge has much to do with his success in landscape work.

The scale of values in photography may be expanded or compressed, at will, in making the negative, in printing in bromoil, and in various ways. Shorter exposure of the plate and longer development expands the values, while the reverse—longer exposure and shorter development—contracts them. Values are greatly modified by the direction of the light. When photographing against the light, directly toward the sun, we encounter harsh contrasts, and when the sun is behind the camera we find compressed values and a marked lessening of contrasts. Atmosphere, too, plays an important part in the modification of values. How beautifully the planes recede in tone, one behind the other, on a misty morning! But on a clear, mistless day, with a pitilessly bright sun, the differentiation of planes is found to be much more difficult. Aërial perspective is dependent upon values, and the rendering of distance is dependent upon values. The illusion of either can be obtained only by a proper relationship of values.

Values vary throughout the picture, from foreground to middle distance, from middle distance to far distance, and from there to the sky. They vary, too, from shadow to sunlight. Shadows themselves vary greatly in value, according to their position and the amount of light reflected into them. Shadows in the foreground are stronger than shadows seen beyond, and, in the middle distance, they begin to disappear entirely.

The values of water in relation to the sky, complicated as it is with reflections from the sky, and whatever objects may be ahead, is a fascinating study in itself. Rough water reflects the general tone of the sky above. Smooth water reflects the landscape, if any, beyond and the sky immediately above the horizon. As this portion of the sky is usually lighter in tone than that above, it will be observed that still water, reflecting sky, is lighter in value than water of which the surface is broken by tossing waves.

Personal observation of values is worth infinitely more than any amount of study indoors and will amply repay anyone who is interested enough to acquire this knowledge at first hand.

A knowledge of values will help the photographer in many ways. It will make him more critical of his prints; will, by experience in trying to render subjects as he sees them, make him more conversant with the various color filters and types of plates required to make negatives in which he feels that the values are correct; and will give him a working knowledge which, should he attempt the use of a control process, will be found decidedly necessary if serious blunders are to be avoided.

The subject of landscape values is too extensive to be adequately treated in any such brief article as this. Literature on the subject may be found in works on art and pictorial composition; but personal knowledge gained at first hand by careful observation, it may be stressed, is the most valuable and practical method of acquiring the necessary familiarity with the subject.

WOODLAND SUNSHINE
RAYMOND E. HANSON

FROM THE OPEN SEA
S. TOPALIAN

# EDITORIAL

## Let Spring Reign!

IT is not our intention to attempt a spring sonnet nor to turn a young man's fancy to thoughts of romance. However, we confess to being influenced by nature's awakening in field and forest; by the warm sunshine, the fleecy clouds, the sparkling waters of the lake, and by that intangible something which is best expressed by the song of birds. Unfortunate, indeed, is the person whose heart and mind do not respond to the dynamic call of spring.

To the city-dweller who looks out upon crowded streets, great stone buildings, asphalt pavements, and concrete sidewalks it seems a long way to where the little arbutus blossom lifts its pink petals to greet the April sunshine. However, even the largest cities have parks where trees, green grass, and flowers are grown, just to remind us all that beyond the city limits there is a wonderful world of nature's making. Those who hear the call of an awakening universe will find a way to get out into the sunshine and to enjoy the budding trees, the flowers, and the singing birds.

The photographer is more fortunate than most men. He has it within his power to catch and hold a greater part of the beauty of spring days. The floating clouds, the rushing brook, the feathery foliage, and the distant hills may all be made a part of a picture. Even in the city parks there is abundant subject-material which, in addition to nature-subjects, may include interesting studies of children and grown-ups. Let those who live in our large cities profit by the example of Japanese pictorialists, who seem to see a picture no matter in what direction they point a camera. We should also remember that many a beautiful composition may be found even in the most congested surroundings. The important thing is to cultivate the ability to see a picture and then possess the skill to make the most of the opportunity.

There is a value to the spring days, especially this year, in their power to renew our courage and our determination to carry on so that the long winter of depression may become a thing of the past for us all. It seems almost inconceivable to us that any owner of a camera who goes afield to make pictures in the spring sunshine can fail to return to his home without experiencing the thrill of reawakened confidence and fresh hope in the future. If photography did nothing more in 1931 than to give courage and strength to men and women in all walks of life, its name would be blessed. It is true that through photography very often there comes a comfort and an inspiration which can be obtained in no other way.

There may be those who fail to understand the far-reaching influence of spring days. To them, April is just another month with its problems and its disappointments. For the benefit of those who demand something more tangible than spring sunshine to restore their courage, we are glad to say that we sincerely believe business in the photographic industry is picking up. It is reflected in increased subscriptions and in increased advertising. To be sure, there is no rush; but let us be thankful that apparently the tide has turned in the right direction. It requires real courage to buy after a period of depression, and when personal funds are low. Yet, if it be true that curtailed buying contributed to the "vicious circle" of depression, might not increased buying help us all out of the circle?

We are glad to know that there are many pictorial photographers who are mentally and physically free to grasp every opportunity which the spring days offer. These good friends are attuned to the sweeping, powerful symphonies of awakened nature. They are trained to see beauty, to arrange their compositions artistically, and to portray what they have seen by masterful technique. To such pictorialists the beauty of spring days is a rejuvenation and an inexpressible happiness. They have proved, indeed, that photography is more than a cold, mathematical process. They know, as we know, that through the camera mankind has found a way to obtain and to hold the deeper, finer things of life. To them, spring reigns gloriously now, and always.



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# OUR MONTHLY COMPETITION

**Closing the 5th day of every month**
**Address all prints to PHOTO-ERA MAGAZINE, Monthly Competition**
**Wolfeboro, New Hampshire, U.S.A.**

## Awards

| | |
|---|---|
| *First Place* | 10 Points |
| *Second Place* | 7 Points |
| *Third Place* | 5 Points |
| *Honorable Mention* | 4 Points |

(*a*) The person having the highest number of points at the end of the year, December 15, 1931, will receive an engraved silver cup; the next two highest, smaller engraved silver cups; and the next five highest, one-year subscriptions to PHOTO-ERA MAGAZINE.

(*b*) *All who win awards receive Certificates.*

(*c*) Those who win an Honorable Mention Award and are *not regular subscribers, or have not been regular subscribers,* will receive PHOTO-ERA MAGAZINE for six months, with the compliments of the publishers.

(*d*) No competition-pictures are sold, exchanged, or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

(*e*) All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs, and to responsible organisations for exhibition-purposes, *free of cost.*

## Rules

1. This competition is free and open to all.
2. Not more than two subjects may be entered. *Composition, exposure, and photo-finishing must be done by the competitor.*
3. Mounts must not be larger than 16 x 20 inches. Prints may be mounted or unmounted.
4. Each print must bear on the back the maker's name and address, and the title of the picture, and should be accompanied by a letter, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. *Entries which do not comply with this rule will be omitted.* Enclose return postage. Data blanks sent at request.
5. Prints receiving points become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

**Photo-Era Competition Cup**

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data.
7. Overseas competitors may send prints for several competitions at the same time. This will facilitate packing and reduce transportation charges.

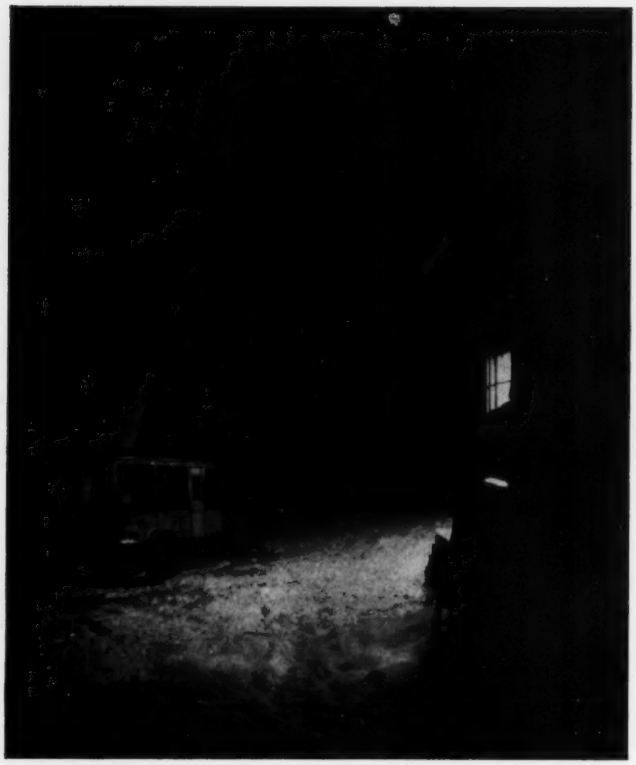
## AWARDS—OUR MONTHLY COMPETITION

**Subject—MISCELLANEOUS**
**Closed February 5, 1931**

| | |
|---|---|
| *First Place* | Allan F. Barney |
| *Second Place* | George W. French |
| *Third Place* | A. W. Clark |

*Honorable Mention*: Roy and Brownie Adams; Edward Bafford; Axel Bahnsen; Roland F. Beers; Mrs. R. O. Bethune; Paul Bras; Louis F. Brook; Dr. G. H. Broyles; John L. Brun; Leland H. Croscup; Carl Demaree; William C. Duncan; Dr. Irving B. Ellis; Harry B. Fisher; Waldemar Glass; Samuel Grierson; Dr. Kelley Hale; Zoltan Herczegh; Frederick J. Hermann; J. K. Hodges; Sorab J. Kharegat; Robert S. Knerr; Dr. K. Koike; Edouard C. Kopp; Fred G. Korth; Charles Linke; Ladis A. Lisy; C. P. Martin; Melvin Martinson; Kusutora Matsuki; Henry J. Matthies; William J. McCune; John C. Moddejonge; A. E. Moebs; H. P. Morris; A. G. Niido; John S. Purdy; William M. Reyes; Corrado Sallustio; Thomas Scott; C. A. Shaw; Dr. F. F. Sornberger; Harry W. Story; Dorothy Thompson; Dr. Max Thorek; A. M. Tomlinson; L. H. Townsend; J. C. Wedekind; T. R. Wiley; Pauline E. Wolfe.

THE STEPS OF TIME
ALLAN F. BARNEY
FIRST PLACE—OUR MONTHLY COMPETITION



POOR MAN'S REST — GEORGE W. FRENCH
SECOND PLACE—OUR MONTHLY COMPETITION

## Our Monthly Competition

"The Steps of Time", by Allan F. Barney, of the Fort Dearborn Camera Club, which received First Place, is an unusually powerful and striking composition. There is something relentless and immovable about the huge stone blocks which forces home the thought that man, after all, is helpless to thwart or to change the measured, steady progress of the hours, days, months, and years. The strength of Mr. Barney's picture lies in its simplicity and in the skillful use of light to emphasise the huge blocks. If one wishes to read a moral in this picture, one can find it in the fact that the steps of time are leading upward, as if to success, to achievement, and to peace. We believe that pictures made as Mr. Barney has evidently made this one certainly merit the name of art, because not only technique but individual interpretation and expression are given full play.

Data: 4 x 5 Speed Graphic Camera, Voigtländer Heliar lens, 6-inch focal length, stop F/22, color screen K-3; January, 10 A.M., dim sun; 1/5-second exposure. Eastman Portrait Panchromatic film; developer, glycin; tank, 20 minutes; Vitava Projection O from paper negative.

Those of us who are privileged to live in the country and, therefore, become familiar with rural life, can quickly understand and appreciate a picture such as "Poor Man's Rest", by George W. French. To be sure, the setting is homely and far removed from the gay white way of the cities; and yet we wonder whether any brilliant electric sign can attract any greater attention than the one lighted window in the lonely farmhouse. Apparently there is another source of illumination around the corner of the building, which is reflected on the snow and on the truck and barn to the left. Yet the light in the window loses none of its emphasis by this supplementary illumination. The texture in the snow is well rendered, and the whole scene is one which is story-telling and convincing. Those who have followed Mr. French's pictorial efforts in Photo-Era Magazine for many years will agree that he

WEST WIND — A. W. CLARK

THIRD PLACE—OUR MONTHLY COMPETITION

has unusual ability when it comes to portraying life in the rural communities of New England.

Data: 8 x 10 View Camera, 12-inch Sylvar lens, stop F/8; February, 9 P.M; electric light, 10-minute exposure; Commercial Panchromatic film; Tuma-Gas printing-paper.

It is a long way from the east to the west coast; but, thanks to photography, the distance may be covered by simply glancing from one page to the next. "West Wind", by A. W. Clark, although made in the month of January, is convincing evidence that, in California, summer conditions do exist in January. Mr. French's picture was made in February, and the two offer a rather striking contrast of weather conditions at opposite sides of our great country. In "West Wind", Mr. Clark has accomplished his purpose by the use of two trees silhouetted against a cloud-filled sky. In fact, without the trees there is nothing in the picture to indicate that a wind of any considerable force is blowing. Obviously, unless the pictorialist utilises striking formations of clouds, white-capped water, flying dust, or thrashing trees, he cannot present a convincing picture of the effect of wind. Mr. Clark is to be complimented upon the simplicity, and yet the striking effectiveness, of his composition, which leaves no doubt that it is, indeed, a windy day on the west coast.

Data: Made in California on a January day, about 3.30 P.M.; cloudy, with sun shining brightly at intervals. Super-reflex camera, fitted with Wollensak Velostigmat F/6.3 lens. Exposure, 1/100-second at F/8, the short exposure being necessary on account of the gale which was blowing. Four-time filter, Eastman filmpack; developed in pyro, and enlarged on P. M. C. Bromide.

## To Prevent Prints from Curling

THROUGH the co-operation of the Defender Photo-Supply Company and the Agfa Ansco Corporation we have received two formulas for solutions that have proved very helpful in the prevention of curling.

The solution received from the Defender Photo-Supply Company is the following: Dissolve in the smallest amount of water any convenient quantity of gelatine, and after it is thoroughly dissolved add some alcohol to thin to a working consistency. This is heated and applied hot to the back of the prints with an ordinary paint or paste brush. When this is applied the print will curl considerably but may be held down with a small board having four or five nails driven through it to make legs to stand on. This will hold the print until the moisture begins to leave it and as soon as it is surface dry, the print should be put under weights or in a press for final flattening.

From the Agfa Ansco Corporation we received the following formula:

*Solution A*
Hot water ..... 9 ounces
Nelson's gelatine ..... ½ ounce
*Solution B*
Hot water ..... 3 ounces
Powdered alum ..... 30 grains
*Solution C*
Oil of cloves ..... 2 drams

Mix all three together and allow to cool. This will form a jelly. To use: Put a small amount in a cup and set in hot water and it will return to liquid form. Rub this on the back of the print while the print is still wet.

# THE COMPETITION SCOREBOARD

## FEBRUARY 5, 1931

| | *Points* |
|---|---|
| J. K. Hodges | 18 |
| Dr. Max Thorek | 18 |
| Edith H. Bethune | 16 |
| Alexander Clair | 16 |
| J. Daniels | 16 |
| R. W. Dawson | 16 |
| Carl Demaree | 16 |
| Dr. Kelley Hale | 16 |
| Sorab J. Kharegat | 16 |
| A. E. Moebs | 16 |
| Corrado Sallustio | 16 |
| Dr. Irving B. Ellis | 15 |
| Melvin Martinson | 15 |
| Roy and Brownie Adams | 12 |
| Paul Bras | 12 |
| Harry B. Fisher | 12 |
| Waldemar Glass | 12 |
| Edward L. Gockeler | 12 |
| Frederick J. Hermann | 12 |
| Dr. K. Koike | 12 |
| Fred G. Korth | 12 |
| Walter Lipkau | 12 |
| Kusutora Matsuki | 12 |
| William J. McCune | 12 |
| A. G. Niido | 12 |
| Thomas Scott | 12 |
| J. C. Wedekind | 12 |
| George W. French | 11 |
| Allan F. Barney | 10 |
| E. J. G. Schermerhorn | 10 |
| Edward Bafford | 9 |
| A. W. Clark | 9 |
| Arthur M. Underwood | 9 |
| Roland F. Beers | 8 |
| Matthew S. Beros | 8 |
| C. H. Clapper | 8 |
| Leland H. Croscup | 8 |
| James M. Dille | 8 |
| William J. Ennever | 8 |
| Edwin W. Gantt | 8 |
| E. Graham | 8 |
| Earl Gray | 8 |
| M. Gurrie | 8 |
| Zoltan Herczegh | 8 |
| Lionel Heymann | 8 |
| M. Itoh | 8 |
| Alma R. Lavenson | 8 |
| Charles Linke | 8 |
| Ladis A. Lisy | 8 |
| C. P. Martin | 8 |
| John C. Moddejonge | 8 |
| Henry Y. Okiyama | 8 |
| William M. Reyes | 8 |
| T. R. Riley | 8 |
| Dr. F. F. Sornberger | 8 |
| A. M. Tomlinson | 8 |
| Martin Vos | 8 |
| Leonard Purin | 7 |
| Hifumu Miyamoto | 5 |
| Carmine Albanese | 4 |
| Edward Andres | 4 |
| Axel Bahnsen | 4 |
| J. M. Banerjee | 4 |
| Fred Beidleman | 4 |
| James A. Bell | 4 |
| Louis F. Brook | 4 |
| Dr. G. H. Broyles | 4 |
| John L. Brun | 4 |
| J. A. Couty | 4 |
| Daniel De Voe | 4 |
| William C. Duncan | 4 |
| J. H. Field | 4 |
| E. P. Fleming | 4 |
| Samuel Grierson | 4 |
| Arthur W. Grumbine | 4 |
| William F. Happich | 4 |
| Gertrude Hennig | 4 |
| R. R. Jarrett | 4 |
| Theo Kay | 4 |
| Robert S. Knerr | 4 |
| Edouard C. Kopp | 4 |
| Arthur J. Lang | 4 |
| Dr. Davies Lazear | 4 |
| Joseph F. Leggett | 4 |
| Isidore Levitan | 4 |
| Arnold D. Lewis | 4 |
| Erwin Marty | 4 |
| Henry J. Matthies | 4 |
| F. Meyer | 4 |
| M. G. Monani | 4 |
| H. P. Morris | 4 |
| William F. Murden | 4 |
| C. Nabuco | 4 |
| W. C. Niesen | 4 |
| N. Okada | 4 |
| Alfred Petrick | 4 |
| W. H. C. Pillsbury | 4 |
| J. B. Priddy | 4 |
| John S. Purdy | 4 |
| Hugo Raeth | 4 |
| Gaston Remy | 4 |
| A. E. Rutenbeck | 4 |
| John O. Scudder | 4 |
| C. A. Shaw | 4 |
| K. E. Skinner | 4 |
| James Simpson | 4 |
| Albert B. Street | 4 |
| Harry W. Story | 4 |
| Dorothy Thompson | 4 |
| L. H. Townsend | 4 |
| A. L. Tracy | 4 |
| Yoneo Usami | 4 |
| Annie Watkins | 4 |
| Adeline Winter | 4 |
| Pauline E. Wolfe | 4 |
| George P. Wright | 4 |
| Gino Zenier | 4 |

# OUR ILLUSTRATIONS

A. H. BEARDSLEY

Our front cover for this issue is, very appropriately, a woodland scene, with its suggestion of spring sunshine. Raymond E. Hanson uses this striking illustration in connection with his excellent article on landscape values. Obviously, the group of birches is the outstanding center of interest. However, these are balanced by the darker tree at the left and, although the eye stops to admire the birches, nevertheless there is no difficulty in going on into the woodland beyond, where the sunshine has produced beautiful shadows. Altogether, this is one of the most beautiful landscapes that we have been privileged to reproduce.

Data: Graflex camera, 6-inch lens, 3¼ x 4¼ plate, 3x filter; exposure about 2 seconds at F/8; pyro developer.

The frontispiece, "Kazatchka", by Nicholas Ház, has been exhibited in a number of salons at home and abroad. It is doubtless familiar to most of our readers. Mr. Ház selected it to accompany his article, and it is truly typical of his exceptional figure work. We feel indebted to him not only for this picture but for the article, which should be read carefully by all who are interested in photography as an art.

Data: made with a 11 x 14 Studio camera, 18-inch Goerz Dagor lens, stop F/8, exposure one second; film, pyro developer; printing-paper, Glossy Azo.

In connection with the Third International Syracuse Salon we reproduce five illustrations, which give us a cross-section of the pictorial work on exhibition. "A Happy Family", by William H. Zerbe, is a delightful group of kittens, in which the expressions have been caught with remarkable skill and truthfulness. Mr. Zerbe is not only a pictorialist and experienced news-photographer but for many years was an instructor at the Brooklyn Institute, Department of Photography, where his courses were justly among the most popular at the Institute.

"The Background Painter", by J. O. Sprague, is a splendid study of an old gentleman, and the character of the subject has been beautifully portrayed by Mr. Sprague.

"Bowery Sunbeams", by Howard G. Dine, is a glimpse of New York City which will be familiar to many, and Mr. Dine is to be complimented upon his skill in catching the play of light and shade in this busy part of a great city. Mr. Dine's architectural studies have graced our pages, and so have his other pictorial efforts. His work has shown consistent progress.

"Étude de Reflets", by Leonard Misonne, is another beautiful example of that master-pictorialist's ability. With skill and feeling he has portrayed a scene which tells a convincing story, and there can be no question with regard to the fact that it is raining and that the play of light and shade on the wet pavement is, indeed, a study of reflections.

"Juicy Fruit", by Theodore H. Schuelke, is an excellent still life, in which the texture of the fruit is beautifully rendered. Even though it is a subject which has been done many times, Mr. Schuelke has succeeded in making it an unusually beautiful still life.

The Third International Syracuse Salon has grown steadily, until today it attracts the leading pictorialists in this and other countries. The energetic and progressive work of the Syracuse Camera Club, ably assisted by Miss Anna M. Olmsted, Assistant-Director of the Syracuse Museum of Fine Arts, has resulted in the building up of a salon which can well take its place among the best in this country.

It has been a long time since we have been fortunate enough to obtain as striking a marine as "The Racing Fisherman", by T. E. C. Robinson. There is, indeed, a tang of the sea to this picture. There is no question but that a stiff gale is blowing and that the utmost skill of captain and crew is needed to handle the vessel as she speeds on her way in the race. Mr. Robinson certainly made the most of his opportunity.

Data: The Canadian contender, "Bluenose", in the Fisherman's Race Classic, off Gloucester, Mass., October 15, 1930. The rain and spume prevented the finding of the turning buoys the second time around, otherwise it would have been the Fisherman's Race of a century. During the race, two fishermen were washed overboard, but rescued. Made at 1/50 of a second at stop F/8, from the United States Government Boat "Cunningham", used as the Press Boat. Very dark clouds, raining hard. Imperial 9 x 12 centimeter, Pan-Film Pack. Ikon camera, Carl Zeiss, F/3.5 lens. The race series was eventually won by the American boat, "Grace Thebeau", of Gloucester, Mass.

In the article on stereoscopic photography, by A. Hein, the illustrations are convincing evidence of his originality and skill in evolving, not only an efficient stereo-camera, but excellent stereo pictures from his improvised equipment. Lovers of stereoscopic photography will read his article with interest and appreciation.

Aërial photography has become not only an important part of the military activities of this and other nations, but it has taken a strong position in civilian photography. In fact, aërial photography today is making possible the carrying out of great scientific projects and exploring expeditions, not to mention the mapping of large areas of hitherto unexplored territory. We are indebted to the Information Division of the United States Army Air Corps for an enlightening article on the subject of aërial photography, as it is used in the United States Air Corps. Our readers will probably recall the article which the Editor had in the November, 1925, issue with regard to his own aërial photographic experiences while taking military training at Chanute Field, Ill. Naturally,



XUM

he was much interested in this article and the illustrations.

The Fairchild Photographic Airplane is considerably different from the De Haviland plane which was used at Chanute Field while the Editor was there. Of course, improvements are being constantly made in both planes and equipment.

The picture of Captain Stevens indicates clearly the manner in which most aërial pictorial pictures are made. It was with similar equipment that the Editor made his first aërial photographic flights.

In map-making, the position of the camera and photographer is clearly shown in the picture on page 196. The result of this mapping is illustrated on page 197. The making of mosaic maps is one of the most important and constructive projects of the United States Air Corps.

We are very glad to reproduce the exceptional aërial photograph made by Captain Stevens, which established a record at the time of photographing Mt. Ranier at a distance of 270 miles. The numbers and text under picture will indicate the relative distances of the mountains photographed. Details of this remarkable picture will be found in the text.

The last of these interesting aërial photographs is one of the Arlington Amphitheater, photographed from the air at 9.30 P.M. This picture gives an indication of what may be done with aërial photography at night, when it is assisted by brilliant flares or highly actinic magnesium bombs. We very much appreciate the courtesy and co-operation of the Information Division, U. S. Army Air Corps, in supplying this interesting article and illustrations.

Mr. Ponting continues his instructive discussion with regard to improving prints and negatives by various processes; and, in this number, he illustrates and describes what he terms water-color masking. Those of our readers who are particularly interested in photographing statuary will doubtless obtain much practical information from the article and from a careful study of the illustrations.

Probably there is no pictorialist in New England who is more skillful and sympathetic in his work than Raymond E. Hanson. We are indebted to him for a very helpful and inspirational article in this issue, and also for three unusual illustrations. It has been our pleasure to know Mr. Hanson personally and to welcome him as our guest when he visited Wolfeboro. In fact, some of the pictures which he made while in Wolfeboro have been reproduced in a number of salon catalogs in various parts of the world. Those which accompany his article are excellent examples of his pictorial ability.

"Fish Shacks of Rockport" depicts a scene which is familiar to all those who live on or near the seacoast, especially that part of it which lies in New England. There are those who might suggest that a fishing boat or two, together with some fishermen in evidence, might improve the picture. That is a matter of personal opinion. Some would prefer the present rather peaceful scene to one in which there was greater activity. In any event, it is a marine which is characteristic and possesses story-telling interest.

Data: 3¼ x 4¼ Graflex camera, 6-inch Smith lens, stop F/8; color screen 3 times; August, 9.30 A.M., sunlight; 1/10-second exposure; Orthonon plate; pyro developer; bromoil printing-paper.

"The Mystic Lake" has an especial appeal for us because we are fortunate enough to live on the shores of Lake Winnepesaukee, where many similar scenes are to be found; and at dawn, sunset, or twilight, our lake offers pictorial opportunities similar to the one so beautifully portrayed by Mr. Hanson. The arching tree limbs and bushes along the shore are well handled; so that there is a pleasing effect of balance and a strong center of interest, emphasised by the water in the background, which apparently is still bathed in sunshine. Surely no more restful and peaceful scene could be found.

Data: Made in Winchester, Mass., with a 3¼ x 4¼ Goerz camera with Dogmar lens, stop F/6.3; color screen 3 times; September, 5 P.M., sunlight; 1/10-second exposure; roll film; Amidol developer; bromoil printing-paper. This print has been hung in a number of salons.

"Woodland Sunshine" we have mentioned briefly at the beginning of this department in order to preserve the sequence of reference to the illustrations. However, we wish to remind our readers that this unusually beautiful landscape is part of Mr. Hanson's article, and is without question the most appealing illustration of the three. We feel indebted to Mr. Hanson for this pictorial treat.

"From the Open Sea" is a striking marine which was selected from a collection of prints sent us through the kindness of Mr. S. Topalian, whose summer home is at Ogunquit, Maine. As we write these lines, the New England coast is recovering from one of the worst gales and exceptional high tides on record. Great damage was done to seashore towns, resorts, and homes. Mr. Topalian's picture seems to portray vividly the resistless force which sweeps in from the open sea and in a few hours' time can undo man's labor of years. Unfortunately we have no data.

## Welcome Additional Data

At the time that we reproduced the print "Heeling Some!" by Mr. W. C. Sawyer, in our February issue, we expressed regret that we had no data with regard to the making of this picture. Mr. Sawyer has recently very kindly supplied this information, and we quote from his letter: "I went around among the fleet to make pictures of the lady skippers in the Ladies' Race. When this boat was ready, they offered to tow me out to the starting-line. A bit of the rope appears in one corner of some prints. I stood up in the rowboat and shot, having a lively 'aquaplane' ride. Finally, the boat got to where waves were bigger or from a different direction, and I sat down just in time to receive a bucket of water all over me. I was soon cast off before more trouble occurred. A girl was sailing the boat."

## Simple Rules

The best way for a young man who is without friends or influence to begin is: first, to get a position; second, to keep his mouth shut; third, observe; fourth, be faithful; fifth, make his employer think he would be lost in a fog without him; sixth, be polite. Russell Sage.

# THE EDITOR'S CORNER

## Aërial Amateur Photography

THE article in this issue on aërial photography in the U. S. Army Air Corps might lead some of our readers to feel that this branch of photography is literally too far "over their heads" for them to attempt. Although it is true that aërial photography has a technique all its own, it does not follow that, in its simpler forms, the subject is beyond the grasp of the amateur. During the coming summer-season, more than ever before, flying will be part of the recreation of thousands. Some will travel by plane; others will do sightseeing from the air; and still others will charter a plane for special flights. Then, too, there will be an increasing number of privately owned planes which their owners will pilot to all parts of the United States. Most passenger planes are now enclosed so that those who fly may do so with as much comfort as they enjoy while riding in a closed automobile. It will be noted that the Fairchild Photographic Plane, illustrated on page 194 of this issue, is enclosed. Just a bit different from the open cockpit DH plane in which the Editor experimented with aërial photography! It has been demonstrated that, with care, very good aërial snapshots may be made with a simple box camera. Obviously, weather conditions should be favorable and the co-operation of the pilot should be obtained whenever possible. Very good work has been done with reflecting cameras and the usual high-grade pocket outfits equipped with anastigmat lenses and fast shutters. Amateur movie cameras have also been used successfully in the air. To be sure, it does not always follow that the results will equal those obtained with specially designed aërial cameras and equipment; but amateurs should by no means feel that pictures from the air are not well worth attempting. There are now several models of aërial cameras available for those who wish to have adequate equipment; and certain models cost no more than a good amateur movie camera. The advantage of the aërial camera is its use of special hypersensitised panchromatic film and corresponding filters which cut through smoke and haze. However, the amateur who can use panchromatic plates or films with the right filter will find that very satisfactory results may be obtained with the average high-grade ground camera.

## Your Good Turn

THE Editor happens to be much interested in the Boy Scouts of America and holds a position as a Scout official. He likes boys, and it keeps him young working with them. There are many splendid things in Scouting and none is of greater value than the Scout's Daily Good Turn. It helps the boy and it helps the recipient. Recently a number of our subscribers have done a Good Turn by recommending PHOTO-ERA MAGAZINE to those who have not become acquainted with this publication. A number of new subscribers have stated frankly that their subscriptions have been due to the recommendation of those who already take the magazine regularly. We have never resorted to premiums or other artificial methods of stimulating circulation. We have always adopted the well-known policy of the *National Geographic Magazine*, which is to depend upon its friends to build up its number of readers. To be sure, it may be a rather slow way in these hurried times; but we have found that circulation thus obtained is of a higher quality, and permanent. Therefore, we shall appreciate a Good Turn from our readers in recommending PHOTO-ERA to those who are interested in photography.

## Photographic Travel Articles

IT has always seemed to us that one of the important functions of a camera was to record the travels of its owner. Certainly there is no way to record our experiences and impressions while traveling in a better way than by means of photography. If this were not so, why do lecturers, explorers, and scientists place such importance on the pictures they make? With the approach of the tourist season, at home and abroad, we feel all the more justified to include photographic travel articles from time to time which we hope will encourage our readers to make photographic records for permanent preservation and for the enjoyment of their friends.

## To Subscribers

IF we were to be consulted when we preferred to have our subscribers move from one address to another, we would reply, "Not later than the 5th of the month preceding the date of the next issue." That is, if the subscriber governed his moving as we suggest, he would receive his copy of PHOTO-ERA before he moved; and before the next number came along, we would have time to correct our mailing list and make new stencils, so that he would receive the magazine promptly at his new address. Unfortunately, our readers do not always move at a time that is convenient for us. They even change their address just as the magazine is coming from the bindery, ready for mailing. Of course, they want it, and we certainly wish them to have it; but, frankly, how many of our readers would like to look for a certain addressed envelope and magazine somewhere among several thousand copies being prepared for shipping? All of which brings us to the point. When requests for change of address are received, after the 18th of the month, we cannot be sure of making the correction in time for the succeeding issue. In all probability, the copy will go to the old address, and the subscriber is advised to send his forwarding address and postage to the Postmaster at his former address for attention when the magazine arrives.



XUM

# THE MONTH IN APPLIED PHOTOGRAPHY

C. B. NEBLETTE, F.R.P.S.
*Division of Photography, A.M., College of Texas*

## Photography and Relativity

One of the consequences of Dr. Einstein's now famous, but little understood, theory of relativity is that light has weight; so that in passing close to a body sufficiently large, a ray of light should be bent from a straight line by the gravitational force of that body. If this is the case, then those stars which are seen close to the sun during an eclipse of the latter should show a change in position when the light from them is not passing within the gravitational field of the sun.

In 1919 two British expeditions to the eclipse of that year essayed to test the correctness of Einstein's conclusions. Photographs of the stars around the eclipsed sun were obtained with three cameras and compared with other photographs of the same stars made previously with the same instruments. The plates obtained with all three instruments showed a displacement in the position of the stars during the eclipse in the same general direction predicted by Einstein; but, owing to unfavorable climatic conditions during the eclipse, the plates were not altogether satisfactory and the exact amount of the displacement was open to question. Hence it appeared very desirable that the experiment be repeated under more auspicious circumstances. Consequently, when the expedition of the Lick Observatory went to Australia in 1922 to observe the eclipse of September 21, they took with them a number of cameras for making the series of plates to be used in testing the Einstein theory. The expedition was favored with excellent weather and obtained a number of plates which were brought back to America for measurement. When the plates had been measured and the necessary computations completed, the displacement in the position of the stars during the eclipse was found to be exactly that predicted by the calculations of Einstein. The Lick photographs had been made under highly satisfactory conditions with cameras equipped with lenses five inches in diameter and of fifteen-feet focal length, and included from 62 to 84 comparison stars on each plate, so that the results were regarded as being quite accurate and the conclusion, therefore, inescapable.

There have been a number of opportunities since to test again the correctness of Einstein's calculations, and the making of a series of plates for this purpose has found a place in the program of nearly every eclipse expedition of the last few years. The last opportunity was in October, 1930, when the expedition of the Naval Observatory went to Niuafu ("tin can") island in the south Pacific. An excellent series of plates were made at this eclipse—which was a most fruitful one in many other respects, also; and although it is as yet too early to speak with assurance, since further measurements and computations must be made, the results apparently agree exactly with Einstein's calculations, which call for a displacement equal to 1.74 seconds of an arc.

Now more than ever is the truth of Janssen's famous statement, *The photographic plates is the actual retina of science, evident.* We take a plate consisting of a few crystals of a silver halide complex in gelatine and expose it to a group of stars in the fleeting moments of a total eclipse of the sun, when the time is too short for a man to waste any of the precious seconds in attempting to determine the position of stars at the telescope. On development we get a number of small, round black dots. But in these little black dots which the photographic plate has faithfully recorded is a secret that, when revealed, will disclose one of the laws by which we live and to which we conform whether we will to do so or not.

## Motion-Picture Recording of the Vocal Cords

A paper by G. Oscar Russell of Ohio State University and Clifton Tuttle of the Kodak Research Laboratories, before the Society of Motion-Picture Engineers at their Washington meeting, deals with their experiments in this field.

Still photographs of the vocal cords at various positions in the production of speech have been made by Russell and others; but as exposures of one-half second or more were necessary, the photographs were of somewhat limited value and it was felt that if a workable method of motion-picture recording could be devised much more could be accomplished.

The vocal cords are from 60 millimeters to 100 millimeters (2.35–3.92 inches) down the throat in speaking, or singing, and their position renders difficult the designing of an optical system which will properly image them on the film and another system which will provide adequate illumination of an intensity sufficient for motion-picture photography. Not the least of the difficulties is the tendency of the average person to "gag" when the smallest object is forced down into the throat. This condition limits very decidedly the diameter of the apparatus, for, obviously, the normal production of speech must be interfered with as little as possible if results of any real value are to be obtained.

The optical system which has been devised for this purpose is known as a "Fonofaryngoskop" and consists essentially of a tube 135 millimeters (5.29 inches) long and 13 millimeters (.51 inches) in diameter, fitted at either end with mirrors which may be tilted according to requirements. The lens of the camera is brought close to the mirror at the top of the tube, while the other end is in close proximity to the vocal cords. The introduction of the tube into the throat impairs speech to a certain extent, but has been found to be



XUM

fairly satisfactory in this respect, if the subject has had the advantage of some preliminary coaching and has overcome the tendency to "gag."

The illumination necessary for motion-picture photography is furnished by a 6-volt, 18-ampere incandescent light, the light from which is conducted down the throat to the vocal chords by a bent quartz tube, 8 mm. (.31 inches) in diameter. The camera is fitted with a lens having a relative aperture of F/1.9, and using panchromatic film it was found possible to obtain fairly good exposure at the normal taking rate of 16 pictures per second. The size of the image is rather smaller than could be desired, however, and further work on this point is required. In a later note the authors state that they have made fairly successful Kodacolor records.

## 17,500,000 Lumens of Light—and Arrested Motion

A FLASHLIGHT battery is powerful enough to release a flash of 17,500,000 lumens of light—or even more—in a reflector for the use of photographers designed by the General Electric Company at its Schenectady plant. The reflector, which employs the new Photoflash lamp recently announced by the Company, contains seven standard sockets placed at various angles within a dull aluminum reflector. The sockets are so arranged that the bulbs themselves are uniformly spaced within the reflector to supply an intense, momentary light for the making of photographs of larger interiors, in spite of adverse natural light-conditions. The reflector is attached to an ordinary flashlight cell container, and the bulbs are wired in parallel so that all are flashed simultaneously.

Investigations at the engineering laboratory of the Incandescent Lamp Department of the Company at Cleveland show that the new lamp, which replaces flashlight powder and makes possible pictures hitherto impossible because of fire or accident hazard, has an output of 200,000 candlepower, or about 2,500,000 lumens, as a bare lamp. The use of a reflector will increase this three or four fold within a limited angle, so that a single lamp in a reflector has an output of upwards to 600,000 candle-power.

Further investigations at the laboratory show that the flash of the lamp rises very rapidly in intensity, drops quickly, and then trails off for a longer period. The intensity of the flash which is photographically effective lasts for about 1/50-second. This is further shown by actual exposures, in which it is proved that the flash is sufficiently fast to stop action that can ordinarily be stopped by a camera in such a time.

The Photoflash lamp, developed by the incandescent lamp department of the General Electric Company, consists of a clear bulb of standard design, with the flashlight filament coated with a special preparation, and with a quantity of very thin aluminum foil in crumpled sheet-form within the oxygen-filled bulb. When the circuit is closed, the filament is lighted and this, in turn, lights the foil, giving a flash of intense light. The lamp operates on any 115-volt house supply, or with dry, storage, or flashlight batteries. A new lamp is needed for each flash.

## Studying Effect of Atmospherics

OVER a period of two days, eight flights were made at Mitchel Field, N.Y., under the supervision of Mr. Arthur L. Scheen, of the Eastman Kodak Company, to determine the effect on film of the various atmospheric conditions found at the high altitudes from which aërial mosaics are made. Two of the flights were made by Lieutenant Arthur Merriweather, pilot, and Technical Sergeant Dryer as photographer. The other six flights were made by the photographic team of Lieutenant Guy H. Gale, pilot, and Master Sergeant Cates, photographer.

A new instrument, furnished by the Eastman Kodak Company, was carried in the ship. This instrument, called a meteorograph, records graphically the temperature, relative humidity, and atmospheric pressure. It is interesting to note that, while on the ground, the humidity rises as the temperature drops. In the upper air, the reverse is found to be true. Above 10,000 feet, the humidity drops as the temperature goes down.

The flights were all made at the same altitude, but under different climatic conditions. The film is being developed and will be carefully studied to determine the effects caused by the varying atmospheric conditions encountered.

The cameras used were the T-2, four-lens type, and the K-type, single-lens camera. These cameras are used by the United States Army Air Corps and by most of the civilian mapping concerns.

## Sixteen-Millimeter Talkie Test

RECENTLY, in Orchestra Hall, Chicago, a travel lecture by Burton Holmes was followed by an interesting demonstration of the Bell & Howell sixteen-millimeter talkie reproducer, the Filmophone. In this demonstration, it is stated, a new model Filmo projector unit, equipped with one of the recently perfected 375-watt lamps, threw perfectly clear pictures sixteen feet three inches wide on the screen, and the voice and musical accompaniment could be distinctly heard in the farthest corner of the big theater, which seats over 2,500 people. The size of the picture on the screen was determined by actual measurement, and the quality and volume of the sound accompaniment was tested in several parts of the hall, according to those present.

The test of the talkie outfit was staged by the Industrial Film Division of Burton Holmes Lectures, Inc., after the audience which had attended the Holmes lecture had left the hall, although Mr. Holmes and several of his friends remained to see the results of the demonstration. Naturally, the acoustics of the hall would have been improved by the presence of an audience, but, even so, it is stated, the slightest sound from the record could be heard right up to the last seat in the hall. "In the top gallery," says Burton Depue of the Burton Holmes organization, "I could distinguish every word coming from the loud speaker on the stage".

The Filmophone was placed in the regular projection booth of the hall, over 90 feet from the stage, and a cord approximately 150 feet long was extended from the booth to the loud speaker. A regular two-inch lens was employed in the projector. The volume of the sound accompaniment is reported to have been so great that it was unnecessary to advance the volume control to capacity.



XUM

# LONDON LETTER

CARINE AND WILL CADBY

We have had an archeological sensation—we might say shock—in our little, old-fashioned hill town of Shaftesbury. On a wet, bleak afternoon lately, a few representative people and reporters were gathered together on ground that had once been a splendid abbey to witness the unearthing of relics that are thought to be the remains of Edward the Martyr.

It is, we believe, authentically known that this ill-starred boy was murdered by his stepmother, Elfrida, at Corfe Castle, Dorset, in 978, but some years later his remains were ceremoniously removed to the Royal Abbey at Shaftesbury, where they are reported to have worked miraculous cures on the multitudes who came from all parts to be healed. Indeed, for several centuries the Shrine of Edward the Martyr at Shaftesbury was famous as a resort for pilgrims.

In the sixties of the last century, explorations were made on the site of the Abbey, the foundation walls of which, level with the ground, are now the only remains, and the shrine of Edward the Martyr was discovered—but alas, empty! There was no doubt that his remains had once reposed there, and it is suggested that the Abbess and nuns, with well-founded fears for the precious relics at the time of the Dissolution, hurriedly buried them to preserve them from the despoilers.

The present owners of the Abbey grounds, when excavating lately in a corner of the Northern Transept, came on a stone slab, some eighteen inches below the ground. Beneath this was a rough leaden casket with worked stones surrounding it. The lid of the casket was perforated and partially decayed, and human bones were visible inside. Here was a discovery that had all the appearance of being a valuable find, and so reliable witnesses were called together before further investigations were made.

Now it is known that the nuns of the Abbey, when the Dissolution was threatened, removed the remains of Edward the Martyr from the Shrine and hid them, and they have never since been discovered. And so it seems reasonable to surmise that this small casket, obviously hurriedly but carefully buried, contains the remains of Edward. Further, the bones found in it show signs of being very ancient, falling to pieces if roughly handled. It is common knowledge that Glastonbury Abbey possesses some relics of Edward, and here in this leaden box only a part of a skeleton was found. Moreover, whose remains but those of the Saint would have been considered of sufficient importance in that troublous time to be so carefully collected and hidden? It also looks as if the site chosen was the *empty* monument to a member of a local family who had died and been buried in the Holy Land, and in consequence would be unlikely to be ravaged for plunder.

Whether these are actually the remains of the young King cannot perhaps be definitely proved; but the casket and the unusual mode of interment are no doubt a discovery of great interest, and archeologists are already coming to Shaftesbury to inspect the find, and the *Times* has reproduced photographs of the grave.

Shaftesbury in the old days had one of the largest Abbeys in England, and now the foundations are being laid bare one can visualise its beautiful formation and extent. English people are at last alive to the importance of preserving historic sites, and the excavations at Shaftesbury are being carried out scientifically, and yet in such a way as to leave all that remains of other days in such order and beauty that imagination can build up the scene and visualise the stately Abbey, on the edge of the hill, that must have formed a famous landmark and been visible for many miles.

As one wanders around the museum erected in the grounds, full to the uninitiated of incoherent notes on ten centuries of man's architectural and social activities, it is realised what a happy hunting-ground it is for the archeologist. One can live and delve into the past—not a pursuit we are all addicted to—for in one corner just outside the Abbey wall we can, by removing a heavy stone, see the well-preserved skeleton of a nun of the Middle Ages, peacefully lying in an uncoffined grave; or we can rapidly turn the pages of history and examine stone fragments that undoubtedly date back before the time of William the Conquerer, inspect the well-made tools of that date, and mentally rebuild the busy life of those days.

Our readers need some alacrity of mind; for from the consideration of the almost prehistoric we jump to an ultra-modern topic—viz.: gastric research. We learn that St. Mary's Hospital, Paddington, London, will, if funds permit, buy one of the expensive cameras invented by two young Austrian scientists for research work in gastric troubles, partieularly cancer. Successful experiments have already been made at St. Mary's Hospital with this camera, which is in the form of a small cylinder 2 inches long and five eighths of an inch thick, and this has to be *swallowed by the patient*. The entire wall of the stomach is photographed on sixteen plates 12 by 10 millimeters in size, and these microscopic negatives are afterwards enlarged 100 times. It operates with a flash of 200,000 candle-power, and the whole performance takes 20 seconds.

These are bald and concise facts; but they give one a good deal to think about, whether in the capacity of patient or photographer. As the former we should hesitate to gulp down so expensive a morsel of apparatus, for the price is £160! And there would be a certain diffidence in having sixteen portraits of one's interior exposed to the public gaze—it could hardly look its best in all of them—even if we could be sure the little instrument would come safely up again with its telltale load.

As pictorial photographers we cannot help envying the operator's carefree position. He apparently leaves everything to the wonderful mechanism of

(*Continued on next page*)

# HERE, THERE AND EVERYWHERE

**To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.**

## Boston Camera Club's Annual Open Exhibition

THE Boston Camera Club, the pioneer camera club in Boston, organized in 1881, held an "All New England" exhibition in the beautiful new gallery of Lamson & Hubbard on Boylston Street, Boston, March 2 to 14.

This exhibition, which was open to all New England, is the first one held by the Club in several years and marks the come-back of the Club to participation in active pictorial photography. The prints shown were all of salon quality and were the work of the cream of New England's camera-workers, thirty-seven of whom showed ninety-six beautiful pictures. The names of some "Old-timers", from the Club's original roster, were noted; among them a few whose work has not been publicly shown for several years.

It was very interesting and illuminating, also, to see some formerly well-known pictures brought out afresh in modern control-printing, mediums such as bromoil, gum, and the newer and richer qualities and surfaces in enlarging papers, which greatly enhanced their pictorial worth and charm.

Another interesting feature was that all prints were framed exactly alike in narrow, plain, flat moldings in natural wood of light color, unstained and unvarnished. The size was also uniform, about 16 x 20 inches, and all were glazed; so that no thought was given to that feature, when once noted. Some prints were matted on white and others filled the entire frame. The effect was very fine.

As the Boston Camera Club is to hold exhibitions annually henceforth, art-lovers who are interested in photography will have much enjoyment in store.

The Club is to be complimented and congratulated on this noteworthy showing, and great credit is due to those who have held the membership together and prepared this exhibition.

E. H. WASHBURN.

## Portage Camera Club, Akron, Ohio

MR. H. P. HERRON, president of the Portage Camera Club of Akron, Ohio, makes the following announcement: "Our club moved March 1 into its new and elaborate quarters in Akron's new million-and-a-half-dollar Y. M. C. A. Here we will get free rent, light, water, janitor service, and club-rooms, furnishing the photographic equipment ourselves. We will also have use of many of the large rooms for meetings and lectures when our own quarters become inadequate. Our club has received recognition by many prominent Akron business men and the Akron Art Institute, and we have the full support of the Akron daily newspapers. The Y. M. C. A. recognises us as one of the principal educational features in their plan, and solicited our co-operation. It is extremely interesting to learn from the Y. M. C. A. directors that many applicants in the Y. M. C. A. have checked Camera Club as their most interesting feature. Our dues have been reduced to $1 per month, but a membership in the Y. M. C. A. is required. We will retain our name and operate the same as we always have. The club will be open twenty-four hours a day, seven days a week."

## London Letter

(*Continued from preceding page*)

the camera. He has no picture to compose, and the difficult problem of lighting is for him non-existent. He has no complicated exposures to calculate; his but to just stand by and await with confidence the wonderful working of his uncanny little instrument. We are told the pictures require expert investigation, which seems to us quite believable, for they are neither landscape or portrait, at least in the general sense of the words. But seriously, if this camera will do all that is claimed for it, a tremendous technical achievement has been reached which will do much to reduce the difficulties of the detection of cancer of the stomach.

## Photo-Miniatures for Mr. Neblette

WE are confident that our readers will be very glad to co-operate with us in helping Mr. Neblette, editor of our department "The Month in Applied Photography". It seems that Mr. Neblette is at work obtaining material for another book and this involves a great deal of research. In order to complete data which he now has, Mr. Neblette is very much in need of certain back numbers of *Photo-Miniature* which he would like to purchase or borrow temporarily, if not for sale. The numbers he requires are: 13, 30, 39, 63, 79, and 166. Those who have all or some of the numbers will confer a real service by addressing Mr. C. B. Neblette, F.R.P.S., Division of Photography, A. M. College of Texas, College Station, Texas.

## Miss Spangler Joins New York Institute Staff

THE New York Institute of Photography has increased its staff and facilities by the addition of a department devoted exclusively to retouching and coloring, under the direction of Miss Helen M. Spangler.

Miss Spangler has been actively engaged in photography for the past fifteen years, most of which time was spent in caring for the most exacting work in some of the largest and best-known Chicago studios. She also enjoys a reputation of being the best-known woman press photographer in this country, having served on the staff of the



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*Chicago Tribune* and of Underwood and Underwood.

The new department will be devoted to retouching, etching, blocking, stripping, spotting, print retouching, and coloring photographs in oil and water color. Although these subjects comprise a part of the regular course of the New York Institute of Photography, arrangements have been made to give a special course in these subjects to those desiring it.

Full particulars may be obtained by writing to the New York Institute of Photography, 10 West 33d Street, New York City.

## Albert and Alda Jourdan Exhibition

THE Appalachian Mountain Club opened an exhibition, early in February, of the combined work of Albert and Alda Jourdan of Portland, Ore., who are well known to the world of pictorial photography. In one respect, it was entirely unique, being, so far as the present reviewer knows, the first "one family" show hung in the Club's gallery, on Joy Street, Boston. The collection, which was admirably hung by the Club's art-counselor, Mr. Franklin I. Jordan, consisted of a large number of sizable bromides, showing portraits, figure-studies, landscapes, and architectural details. Although the exhibitors are, we understand, professionals, a number of prints showed that they had been made for the love of the work and the subjects. Needless to say, the technical work was of the highest order.

Outstanding prints were, to our taste, such fine portraits as "Violinist"; "Mr. Ward Baker"; "Tay Fu", an excellent character-portrait of an old Chinaman; "Betty James", a salon quality print; and "Benny Parsons". Two fine landscapes, or rather riverscapes, were "St. John's Ferry, Willamette River" and "A Willamette Sawmill". "Street-Workers" was an excellent little print, well worthy of a larger size. In the field of architectural endeavor, there were many fine prints. A particularly fine interior was "Lobby, Northern-Life Tower", a difficult piece of work, faultlessly done, bringing out the textural qualities of the walls, and the beautiful sheen of marble, without glare.

The Club and Boston are fortunate to have had this fine collection from the west coast. It may well serve as a forerunner for others.

E. H. WASHBURN.

## Brooklyn Institute Annual Exhibition

THE Forty-First Annual Exhibition of Pictorial Photography by the members of the Department of Photography of the Brooklyn Institute of Arts and Sciences opened March 3 in the print galleries of the Brooklyn Museum and was on view throughout the month of March. The members showed very interesting landscapes, portraits, and compositions of line and design. There were numerous excellent process-prints showing striking composition and splendid technique. The jury of selection was Helen Appleton Read, Ira W. Martin, and C. Hayes Sprague. A private showing was held on Monday evening, March 2, at eight o'clock, to which friends of members were invited. Samuel P. Ward was Chairman of the Salon Committee.

ELEANOR FISCHER.

## Camera Pictorialists of Columbus

THOMAS R. WILEY, of the faculty of Denison University, Granville, Ohio, was re-elected president of the Camera Pictorialists of Columbus, at the annual meeting at Columbus, Ohio, February 26. E. G. Royer was elected vice-president; William C. Pryor was re-elected secretary, and Leonard Eesley was elected treasurer. Correspondence should be addressed to the Secretary at 60 Latta Avenue, Columbus, Ohio.

The organization was formed a little more than a year ago, and held its first members' show in the Columbus Public Library galleries during November and December, 1930. The show was held in connection with the annual "black-and-white" show of the Columbus Art League under direction of the Columbus Gallery of Fine Arts. Forty-six prints were shown.

It is expected that another members' show will be held either in early summer or early fall in the newly opened Columbus Gallery of Fine Arts.

## First New Hampshire Salon of Photography, 1931

ACTING upon the ancient Chinese proverb that "one picture is worth ten thousand words", the Department of Publicity of the State of New Hampshire announces that it will hold a Salon of Photography in the State capital, Concord, from May 15 to June 1, 1931, inclusive. It is believed that New Hampshire is the first State to conduct a Salon of Photography inviting and encouraging professional and amateur photographers to contribute photographs of salon quality to make New Hampshire better known regarding its industrial, agricultural, and recreational advantages. Contributors are not limited to the State, but include photographers anywhere in the United States who have pictures made of New Hampshire scenery, agriculture, industry, and recreation. This salon is an appeal to every lover of the Granite State, wherever he or she may be, to send six of the best photographs he or she has made, these to be considered by the Jury of Selection. All pictures which are accepted will be hung at the First New Hampshire Salon of Photography and will become the property of the State of New Hampshire, to be used for traveling pictorial exhibitions and in the illustrated descriptive matter issued by the Department of Publicity. Full credit will be given to every photographer. Salon exhibitors are restricted in no way whatsoever with regard to the sale of duplicate pictures or original negatives. Only the photographs hung at the salon will become the property of the State. A catalog of the salon will be mailed to every contributor.

In the effort to make the First New Hampshire Salon of Photography attractive to leading professional and amateur photographers in all parts of the United States, the salon will be patterned as closely as possible after the well-known international salons which are held in Pittsburgh, Los Angeles, Chicago, Rochester, Syracuse, San Francisco, New York City, Seattle, Portland (Maine), and other cities. The Department of Publicity asked the co-operation of the Editor of PHOTO-ERA MAGAZINE, and requested him to accept the Chairmanship of the Salon Committee to organise and conduct the salon. The Jury of Selection will

include an internationally known salon exhibitor, the editor of a leading New Hampshire newspaper, an expert professional industrial photographer, a qualified artist, and the Editor. The last day for receiving prints will be May 5, 1931. Entry forms may be obtained by addressing Mr. Donald D. Tuttle, Executive Secretary, Department of Publicity, State of New Hampshire, Concord, New Hampshire.

## Willoughbys Junior Rental Library

With a view to enlarging their service to owners of moderate-priced 16-millimeter projectors, Willoughbys has recently inaugurated a new Junior Rental Library of films for the benefit of local patrons. As yet, this service cannot be extended to customers out of town. An interesting list of subjects is ready for distribution, and local patrons are urged to obtain it for reference. Rental rates are moderate.

## "The Romance of News Gathering"

Under this title, Alton Hall Blackington has woven together one of the most interesting lectures which amateur and professional photographers may have the privilege to hear and to see. By means of lantern slides, color, and black-and-white motion-pictures, Mr. Blackington takes his audience for a tour of the White Mountains; climbs Mount Washington, and stays all night in the Tip-Top House to photograph the sunrise; sails, swims, camps, fishes, and flies at Lake Winnepesaukee; visits Vermont after the disastrous flood; calls on the Coolidges; visits the coast of Maine, and otherwise presents a convincing story of the work of a news-photographer. Mr. Blackington for many years was staff photographer of the *Boston Herald* and he knows whereof he speaks. We have heard and seen his lecture, and we recommend it heartily to camera clubs, church organizations, and to all who desire an unusually fine evening's entertainment. The Boston Booking Bureau, 9 Hamilton Place, Boston, Mass., has charge of Mr. Blackington's lecture engagements and will gladly furnish information.

## Photo-Era Trophy Cup Scores

The entries in the monthly competition continue to increase in number and in variety of subject material. The competition which ended March 5, 1931, contained a wide selection of interesting subjects and the judges were confronted with a real problem to solve. However, they made a sincere effort to make their awards with care and thoughtful consideration. It seems to be the unhappy lot of judges in general to bestow awards where some good friends believe none should be given. We are of the opinion that so long as there can be no hard-and-fast yardstick in art and so long as judges are human, some unpopular awards will be made in virtually every competition or exhibition. And so, we see no way out of the situation other than for the judges to do their best, stick to their convictions, and carry on.

Edward L. Gockeler, not a club member, received the First Place; Charles Linke of the Fort Dearborn Camera Club, Second Place; and Howard G. Dine, not a club member, Third Place. With regard to Honorable Mention Awards, Fort Dearborn Camera Club received six; Brooklyn Institute, Erie Camera Club, Orymca Camera Club, and the Photographic Club of Baltimore, one each. We take this opportunity to welcome the Erie Camera Club and to wish them well in the race. The Fort Dearborn Camera Club continues to set the pace. Five other clubs are within striking distance of each other for second and third place. We hope that some club will make a desperate spurt to overtake the Fort Dearborn Camera Club before that lively organization jumps completely out of sight in the direction of the finish line. It can be done. None other but this same Fort Dearborn Camera Club did it one year, and won the cup for that year. We should like to remind club members that the permanent custody of the Photo-Era Trophy Cup is at stake this year. The finish line is the competition which ends with the June 5, 1931, entries. There is still time to make a showing. According to our records, the standing of the clubs as of March 5, 1931, is as follows:

| | |
|---|---|
| Fort Dearborn Camera Club | 26½ |
| Orymca Camera Club | 3½ |
| Cleveland Photographic Society | 3 |
| Brooklyn Institute | 2 |
| Photographic Club of Baltimore | 2 |
| Camera Pictorialists of Columbus | 1½ |
| Schenectady Camera Club | 1 |
| Erie Camera Club | ½ |
| Photographic Society of Philadelphia | ½ |

## Shake Hands

Once upon a time a news photographer took a picture of two men whose accomplishments made news. In a burst of inspiration, the photographer ordered the twain to shake hands. And as the two men clasped hands, the camera did its work.

Following on the trail blazed by this hardy pioneer, news photographers today never miss an opportunity to portray people shaking hands. Look through any picture paper! The old reliable hand-shakers are there. Why? I grant that a picture of two rather bored people standing before a camera, with nothing to do but look self-conscious, is nothing to cheer about. Still, is there anything exciting in the spectacle of a handshake? Most of them are the most perfunctory of affairs—and register as such on the plate.

Not long after Admiral Byrd returned, there appeared a picture of Byrd and the Colonel exchanging congratulations—Byrd on his polar expedition and Lindbergh on his son. The two were shaking hands. And there was nothing perfunctory about it. Obviously, the camera man had happened on the real thing, and the result was a real picture.

Everything considered, I completely sympathise with visiting celebrities or notables who go to extremes to avoid being depicted in the act of shaking hands. They change hats with Pullman porters, they pose as Diana at the pump, they fondle dogs—but they shake no man's hand for picture purposes. More power to them!

*Rezo.*



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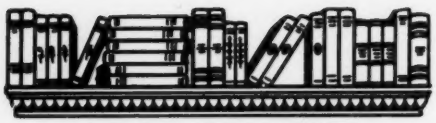

# BOOK-REVIEWS

*Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.*

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THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC, 1931, edited by George E. Brown, F.I.C., Hon. F.R.P.S. 714 Pages of text and 64 gravure illustrations. Price, paper, $1.00; cloth, $1.50. Boston: American Photographic Publishing Co.

The *B. J. Almanac* comes to amateur and professional photographers throughout the world like a visit from an old friend. There is a dignity and prestige associated with it which no other photographic publication can claim. Although its present form dates back to 1866, it is modern in every respect, and down through the years has kept pace with photographic progress. This year a very instructive article by the editor, entitled "Makers of Photography", gives the reader a clear résumé of the men who made photography what it is today. "Modern Enlarging", by T. L. J. Bentley, D.I.C., A.R.C.Sc., B.Sc., treats of projection printing and its many applications to present-day amateur and professional needs. Interest in bromoil printing has increased, and "A Note on Bromoil" by L. Hay Sharp, B.Sc., B.E., adds helpful information to this subject. "Color Photography" is discussed by Captain Owen Wheeler, F.R.P.S., and will prove of value to all who make pictures in natural color.

The gravure illustrations are beautifully reproduced and will prove well worth careful study. There is an excellent variety of subject material. As usual, the *Almanac* is filled with an epitome of the year's photographic progress with regard to equipment and processes, and the usual helpful tables and formulas are in evidence.

Last, but not least, we commend the advertising pages to our readers, because in them will be found a fund of information with regard to equipment which is not found in any other publication. Altogether, the *B. J. Almanac* should be added to every photographer's library.

THE PICTORIALIST, 1931—A Compilation of Photographs from the 14th International Salon of Pictorial Photography, under the auspices of the Camera Pictorialists of Los Angeles. 12 Pages text matter and 100 reproductions. Price, cloth, $3.50. Los Angeles: By Adcraft for Camera Pictorialists of Los Angeles.

The long-awaited first issue of *The Pictorialist* has arrived and represents the fruition of several years of hoping and planning. Only those who have ever been in any way connected with the first issue of any publication can understand the problems and difficulties which are bound to arise when there is no precedent upon which to plan the work. It is evident at first glance that those who are responsible for *The Pictorialist of 1931* intend from the very outset to produce an annual which embodies high quality in the illustrations selected and in typography. They have made an exceptionally fine beginning and we have no doubt that each succeeding issue will equal and probably surpass the present one.

There is an attractive variety of subject material which will appeal to amateur and professional photographers alike. Naturally, some pictures will appeal to a greater extent than others. There are a number of so-called jazzy or modernistic subjects, and then there are many conservative and beautifully done landscapes, marines, portraits, and genres. In short, *The Pictorialist of 1931* is striking, interesting, and inspirational.

Doubtless there was a reason for the variety in the shape and size of the illustrations, and likewise for the use of a black rule in some cases and the omission of it in others. However, as one turns the leaves, one notices the seeming lack of uniformity with regard to the illustrations and their presentation. To be sure, this is not serious; but perhaps in a subsequent issue it might be given consideration.

We take this opportunity to compliment the publication committee, which consisted of Mr. Will Connell, James N. Doolittle, and Karl Struss. We believe that *The Pictorialist* will be well received and we urge our readers to place their orders promptly, as this edition is limited.

CAMERAGRAPHS OF THE YEAR 1930, edited by Shinzo Fukuhara. 25 Pages of text matter and 167 halftone reproductions of pictorial photographers. Tokyo: Japanese Photographic Society.

For many years Japanese pictorialists have produced outstanding pictorial photographs, and in connection with some subjects and their treatment they remain unequaled. Even a hurried glance through *Cameragraphs 1930* will convince the reader that our Japanese friends are pictorialists. The greater part of this annual is devoted to reproductions of exhibition prints which were shown at the First International Invitation Salon and include the work of pictorialists in all parts of the world. However, in the reproductions from the Sixth Annual Salon of 1930, Japanese skill and craftsmanship are strongly evident. The student of pictorial photography who is eager to improve his own work can gain much of profit from the study of this and all photographic annuals. Even though he may not always agree with the selection of the judges, it is of benefit to him to try to find out why certain prints were accepted. We are sure that our readers will enjoy studying this excellent Japanese annual.

LUCI ED OMBRE 1930, Annuario Della Fotografia Artistica Italiana. 26 Pages text matter, 52 reproductions of pictorial photographs. Price, paper, $2.50. Torino: Il Corriere Fotografico.

Pictorial photography in Italy has been making steady progress, as is evident by a study of *Luci ed Ombre 1930*. The annual is virtually devoted to the exclusive work of Italian pictorialists and for this reason is of especial interest to photographers in all parts of the world. Although the greater part of the text matter is in Italian, there is an introductory page in English. We believe that our readers will enjoy studying these pictures from sunny Italy.



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# WHAT'S NEW?

*A department reserved exclusively for the announcement and description of new photographic goods and services.*

## New Wollensak Model E Biascope

THERE should always be a binocular tucked away in the pocket of the car or in the duffel bag for use in all outdoor activities. For those who want this convenience and cannot afford to pay the high prices demanded for binoculars today, Wollensak announces the Model E Biascope.

WOLLENSAK MODEL E BIASCOPE

The Model E Biascope is a six-power pocket binocular with a carefully corrected optical system that magnifies distant objects clearly and distinctly over a large area. The Biascope is made of Bakelite, the whole instrument weighs less than 4¼ ounces, and it is made in a choice of six beautiful colors to harmonise with the equipment of practically every user.

This instrument is of distinct advantage to persons who are out of doors for their pleasure and want to derive the most fun from their playtime hours.

## The Improved Haloid Nomis

WE have recently received a new announcement of the Haloid Company of Rochester, N.Y., which will be of immediate interest to amateurs, professionals, and photo-finishers. Haloid photographic papers for contact printing and enlarging have been on the market for many years and have established themselves as one of the high-grade products in the photographic industry. Helpful and interesting descriptive matter will be sent promptly to all who address the manufacturers and mention PHOTO-ERA MAGAZINE.

## New Filmo Educational Booklet

EVERYONE interested in the use of motion-pictures in the educational field will want to read the new booklet, "Filmo Motion-Pictures in Visual Education", just issued by the Bell & Howell Company.

"There's gold in 'them thar' hills", said the old miner; and there's certainly gold of rare worth in this new Bell & Howell publication for all members of the teaching profession, all school executives, and for parents of school children and college students.

Among the many important subjects treated is that of the use of sound-movies in education. Sound is bound to come; as a matter of fact it is here now. This booklet tells how the sound picture can be profitably and economically introduced into actual everyday use in school and college.

"Finding Films for School Use" is the title of an especially valuable section of the booklet. Teaching films are as necessary to modern education as textbooks and wall maps, and helpful suggestions are given as to how to secure a worthwhile supply of educational films.

How schools can make their own movies is another extremely vital topic that is interestingly discussed, as is also the important subject of how to care for 16-millimeter films.

A section entitled "Pointers for Projectionists" is sure to be of tremendous usefulness. Included in this section is a valuable table showing picture sizes obtainable on the screen by Filmo projection lenses of different focal lengths.

The booklet is rendered particularly timely due to the fact that it carries the news of the recent development of the powerful 75-volt 375-watt lamp for 16-millimeter projection—a lamp which, by making possible the entirely adequate projection of 16-millimeter black-and-white film to a width of 12 feet, opens up a tremendous new field for the amateur-size film in school and college.

A list of typical installations of Filmo equipment in universities and colleges, high schools, public grade schools, private and parochial schools and associations of educational significance, is notably impressive.

Copies of the booklet can be had free on request to the Bell & Howell Company, Educational Department, 1801 Larchmont Avenue, Chicago.

## Improved Agfa Color Plates

RECENT changes in the Agfa Color Plate factory in Germany, made necessary to put these plates on a larger production basis, have been completed, and a supply will be ready for delivery in the United States early in April. Tests made with samples already received show that the improved Agfa Color Plate possesses a number of outstanding features which will appeal strongly to all who use them and who are interested in modern natural color photography. Among these features may be mentioned greater latitude, with greater tolerance to overexposure and underexposure; a speed under average conditions amounting to only thirty times that which would be normal with Agfa Roll Film, known to be very fast; improved color sensitivity over the entire spectrum, especially noticeable in the yellow, orange, green, and purple bands—in addition, a beautiful blending of colors, giving a very true reproduction of all intermediate shades; a finer color-screen, giving greater delicacy in the tones and a remarkable reduction of grain;



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increased resistance to heat and to temperature changes. The new Agfa Color Plate assures color photographs of the utmost brilliance, yet with perfect fidelity to the original colors of the subject. Now is the time to place orders for these plates, for which there will doubtless be a lively demand as soon as they become available.

## Schneider Offers New Fast Lens

THE new Xenon F/1.3 ciné lens now being introduced by Burleigh Brooks, 127 West 42d Street, New York City, represents a new high standard for super-speed lenses. Mr. Brooks calls our attention to the fact that faster lenses than this have been offered (the Dallmeyer F/0.99) but were recalled, leaving the Xenon alone in this field.

The technical description of this lens is as follows: The Xenon F/1.3 contains two cemented components and three uncemented elements, seven elements in all. It has an anastigmatically flattened field and covers 16-millimeter film with a high degree of definition and sharpness. The spherical aberrations, coma, sine condition, and astigmatism are excellently corrected; also the spharo zone differences have been retained to a minimum, making the lens well suited for color work.

Mr. Brooks wisely suggests that lenses of such extreme speed be used mainly for super-speed work and that a slower lens, such as the Xenon F/2, be employed for general all-purpose use.

The Schneider factory is conservative in policy and up to the present has refrained from offering a super-speed lens. When it does offer one and makes such claims for it, we recommend taking advantage of the liberal trial offer of Mr. Brooks.

## Lampere Fotoflash Lamps

ONE of the outstanding contributions to photographic progress during 1930 was the revolutionary Photoflash Mazda Lamp, which has gained steadily in popularity as its value has been tested in actual practice. Like any new product, it had to meet critical users, who had to be convinced of its merits. There seems to be no question now that Photoflash lamps are helping to meet photographic needs of amateur and professional alike. The Universal Distributing Company, 550 South 11th St., Newark, N.J., have placed Lampere Fotoflash lamp equipment upon the market which will be of interest to all our readers. Descriptive matter will be sent promptly by the distributors upon request.

## Photo Section Commended for Fine Work

ALTHOUGH no records are claimed, the 5th Photo Section at Scott Field believes that the cost per square mile of a recent project for the Department of Geological Survey will compare favorably with other projects of a similar nature that were done by the Air Corps last year. The project compromised about three 15-minute quadrangles in Missouri located just west of St. Louis, and with the Missouri River as the northern boundary. The area included was about 670 square miles and the total cost to the Geological Survey is $1,454 per square mile.

Not only is the 5th Photo Section proud of this cost record, but the quality of the work turned out was exceptionally good. In a recent letter from George O. Smith, Director of the Geological Survey, comment is made on this feature of the work. Mr. Smith, after commenting on the fact that a check of all prints sent in of the DeSoto and O'Fallon quadrangles in Missouri show that the work is complete, adds this closing remark: "All photographs contained in both shipments are of such fine quality that it is a pleasure to so inform you."

This project was flown by the Section Commander, 2nd Lieutenant Herman F. Woolard, with Master Sergeant Wilbur R. Rhodes as photographer. The total time in the air for the project was exactly twenty hours, this time being divided into approximately four five-hour flights. The flights were made at 12,000 feet, in order to get the scale desired by the Geological Survey, and only two short strips had to be rephotographed, this work being done in connection with the final day's work.

Two new items of photographic equipment contributed greatly to the success of this project, one being the YF-1 photographic plane and the other the new experimental type D-2 altimeter. With the new photographic plane, which enables the pilot and his photographer to work comfortably inside a closed cabin and to converse freely and keep in close touch with each other, many of the difficulties of former days have been eliminated. The performance of this plane in the matter of stability makes it far superior to any other service type airplane for photographic work. The new altimeter, while an expensive item of equipment, seems to have filled a long-felt need for the photographic teams. It was possible to keep an almost constant altitude with this sensitive instrument which makes it possible for the pilot to read his variations in altitude within five feet.

In making flights on this project of twenty miles in length, Lieutenant Woolard was able to keep the altitude of the plane so constant that the variation in altitude could not be measured on the photograph, and on many of the strips the actual variation was about twenty feet.

Lieutenant Woolard believes that this altimeter is the biggest advance in this type of instrument that has ever been made and that it will result in an appreciable increase in the accuracy of photographic mapping.

## Not in the Ranks

IN the course of an official investigation made by one of the departments at Washington into the condition of private schools, letters were sent to all such institutions which were known. Among these communications, one was addressed "To Private Kindergarten," naming the city and state, where it was a vital power in youthful instruction.

Some months later the letter came back to the department, the envelope being covered with disclaimers from forts and stations all over the South. A line in copy lead-pencil read: "No private or non-commissioned officer of this name can be found."

*The Boston Mail.*

# THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY, F.R.P.S.

## What About Fast Lenses?

THE idea of using this subject was suggested to your editor by a most distressing experience. The Metropolitan Movie Club kindly requested him to deliver an address upon this subject. At the time appointed for the meeting to open he was one of a congenial party gathered about a table in a little-known coffee shop just off Times Square—and the meeting was being opened some twelve blocks up Broadway. There was a hurried scramble for the subway, a crushing experience in the stuffy, crowded car, and a dash through a chill, drizzling rain to the comfortable rooms of the Camera Club, where the meeting was under way.

Belated, the little group marched into the room, interrupting some remarks of Colonel Winton, managing director of the Amateur Cinema League, who was presiding in the absence of President Raymond Ditmars. Shortly thereafter, the speaker was introduced and your editor, just out of a dripping overcoat, walked to the front of the room, spoke the first carefully prepared sentences—and totally forgot the rest of his talk!

Did you ever confront a large group of people, mostly strangers, all of whom expected pearls of priceless wisdom to drop from your lips, and in such circumstances be able to think nothing but a refrain: "Good heavens! *What* can I say? What *can* I say? I can't think of a thing! *What* can I say?" and so on into a maddening eternity.

The experience is not to be envied. However, after a pause of some seconds' duration, something was said. Unfortunately, the talk cannot be recorded, because I, for one, have not the slightest idea of what was said. However, the subject is a good one; so let's get into it.

It is not so long ago that the lens with an aperture in excess of F/3.5 was a novelty to be wondered at, but not one to be trusted overly. Even when they became more common, this feeling of distrust persisted. There came the criticism which was to be expected—these lenses were made "fast" at the expense of critical correction. That was both just and unjust. It is true that aperture is obtained at the expense of correction.

The F/4.5 lens is inferior in critical correction to the F/9 and F/12 apertures, as found in process lenses, for example. The F/3.5 is inferior to the F/4.5, and so on down the scale. Any optician will substantiate this statement. I have made it quite often; but I have taken a blood-curdling oath never to repeat the utterance. I find it thrown back into my teeth with a vengeance. After making such a statement, try to imagine my feelings to have a serious-minded amateur, struggling for the light, ask: "But if these fast lenses are worthless, why do reputable dealers sell them to unsuspecting amateurs?"

It is too bad that we carping critics cannot receive the same light upon many of our criticisms. So, to make atonement, I shall make a statement which will, no doubt, call down upon me the wrath and contempt of all of my colleagues. The fastest lens sold for general use by reputable dealers is as good as the slowest! The super-speed lens stopped down will give the same service as will the slower one! Oh, of course there is a qualification. The statement should have the qualification, "As far as practical amateur results are concerned."

It is true that, upon the testing-bench, a loss of critical definition is noticed as the aperture is increased. It is also noticed that lenses of extreme aperture are not so good at any stop as the slower lenses of superior correction. However, if a photo-engraver can pay upwards of five hundred dollars for a lens with which to make color-separations, using wet-plate negatives, that is no reason you should expect or even desire a lens of equivalent quality for your amateur camera! As a matter of fact, the slight—the very slight diffusion—is an advantage, rather than otherwise. The end result, in which we are all interested, is the final result upon the screen, and the screen results to be obtained—which can be *easily* obtained—using the super-speed lens are considerably superior to those usually obtained by the amateur using the slower lens.

If you can afford only one lens, let it be F/2 or F/1.4—no slower! The good results are easy, if a few simple rules are duly regarded. The fast lens is *fast* and usually brilliant, considering the complexity of its structure. But it also presents a wide expanse of glass to the light. In the usual mount, the barrel does not exert any of the shielding effect found in even the shallowest mounts of F/3.5 lenses. Therefore, Rule One is this: Always use a lens-hood.

Just because you have a reserve power of F/1.4, do not use it in brilliant June sunlight! Film *can* be overexposed, you know! With the old clamor about underexposures ringing in our ears from the past, it seems strange to caution the amateur against overexposure. But with the advent of large-aperture lenses, fast emulsions, and the idiosyncrasies of reversal film in our hands, we should err, if at all, slightly on the under side.

And now to discuss one of the principal complaints against the fast lens. How often do you hear the complaint that the fast lens gives a "flat" picture? This is not fair to the lens at all. The true causes of the flatness are: (1) Overexposure, with a consequent thinness, which has a flat and washed-out effect upon the screen. (2) The neglect of the lens-hood. (3) A lack of contrast in the original subject. (4) An actual but very slight decrease in lens-brilliance, compared with slower ones.

Point One should be self-evident as to cause and remedy.

Point Two is one which will be recognised by all camera users who have ever used a lens-hood. It improves the efficiency of *any* lens.



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Point Three is the one of greatest importance. With slow lenses we wait for pictures until we have "plenty of light". This in itself means a brilliantly lighted scene, with plenty of contrast—too much, in many cases. Then we get a lens which permits us to make films at twilight, and we object because the film displays the same soft contrast which the eye sees at twilight. This reminds me of the man who made a film of Times Square at night and objected because the lights were so prominent and the shadows were so deep. He wanted to obtain a midsun effect at midnight. He was advised to wait until noon, if he wanted that kind of picture. He saw the point, and awakened to the truth about the photography of dimly-lighted scenes. If we make pictures which are softly lighted, we must expect to obtain soft screen effects. No film has yet been made which will add contrast to a flat subject!

Point Four is in reality so slight that it is submerged in the lack of technique of the average amateur and may be practically disregarded by even the most expert!

I wish to reassure you! In spite of these extremely iconoclastic statements, the department has not gone "red". It is barely possible that a debate may be started to relieve the humdrum of winter filming; but in writing this, I have sold myself upon the idea and now I shall stop abusing the typewriter to go and use a fast lens for the one purpose for which it is supremely appropriate. With your kind indulgence, I shall say good night to go and make a natural-color picture!

## Spring Shooting

With the coming of spring, there is the call of the outdoors, and this call cannot be better answered than by taking the camera out for exercise. But, as the winter has meant no shooting for so many of us, we are apt to allow our exuberance get the better of our judgment, and the first film of spring will only serve to take its place as another bit of spring madness.

Instead of that, why not make it a better film than any you have yet made? Take a whole day or at least an entire afternoon to make the film, and see just how well you can do it! Remember that any shot of less than five seconds is too short and any longer than thirty will be entirely too long. Twelve to fifteen seconds is a good length for an ordinary scene; seven to ten, plenty for close-ups; and the most important scene will hardly justify the use of more than twenty seconds of time.

Get the value of every foot of film in the school. Do not press the camera release as soon as you begin to raise the camera to your eye, and don't remove it from the taking position with the spring still running! Place the camera at the eye, take an instant to line up the angle, get what you want, see that the subject is where you want it and doing what you want, then—*and not until then*—press the release and begin counting seconds. When fifteen comes, stop the camera, unless the scene is of the utmost importance. Hold the camera at the eye for a second or two after it has stopped to check over the scene, to see if it has been just what you want. This practice of having the camera in place a second or two before starting, and holding it a second after stopping will not only save a considerable amount of film which would otherwise be wasted, but it will save a very considerable amount of editing. Remember the ends of scenes with the action blurred and dropping from one corner of the screen? Those all had to be removed to make the film presentable; but if this hint is followed, there will be no such scraps.

Then, to save more film, make sure that your exposure and distance are both right. It does not pay to guess at either. It is true that, in reversing, a certain amount of compensation can be exerted in regard to exposure; but there is no treatment known which can develop a sharp image from an improperly focused lens. Practice has made it possible for many of us to guess at an approximately correct exposure; but if you think you can estimate distances, suppose that you try it! Guess at the distance of various objects, then measure them! You will be surprised!

Try to remember that while the afternoon may be passing rapidly, film represents a definite expenditure; but more than that, many of the shots you are making are such that you are very anxious to have them, and many cannot be remade. It pays to make sure of each shot before the film is exposed. It takes only a moment to *measure* the exposure and the distance, and there is a very definite pleasure in being sure that every shot made is going to come out well—better, in fact, than the usual "good" shots of the more casual worker. If you do not have time to make these measurements, it is usually better to forego the trial; for rarely, indeed, is a hurried shot good. If you are filming races or athletic events, make these preparations before the actual event! Have the diaphragm set for the existing light-conditions, have the measurement of the distance made, be sure the motor is fully wound, and have the camera in position at least five seconds before the exposure is to begin.

Keeping the motor wound is another point. Too many amateurs make a practice of running the motor clear down each time it is wound. That means that in four scenes of each spool there is a scene which is not complete, just because the motor ran down in the middle of it. Three or four turns of the winding crank will take care of this point, and keep you with a wound motor all the time.

You will no doubt use panchromatic film, as this gives so much better results than the orthochromatic. If you do this, do not neglect the added quality which can be obtained by the use of filters. Do not use filters which are too heavy. The film will stand them, but the values will be overcorrected. A filter on the order of the K-1 or K-2 will be sufficient.

Watch your loading. Film spools have a habit of coming partially unrolled when loading or unloading. This means an edge fog which will ruin the first few scenes or the last few. Test each empty spool before putting it into the take-up end of the camera to make sure that the flanges are not bent so as to cramp the film. This will prevent snug take-up and the roll will be loose when you open the camera. Also, see that the take-up does not slip too easily. The film must wind snugly upon the take-up spool if it is to be removed from the camera without being fogged.

And, finally, always use a lens-hood. Most ciné

lenses have attached hoods; but, if this is not the case, be sure to purchase or make a hood for your lens. It will add immeasurably to the brilliance of the film and the snappy contrast so necessary for good screening. It is assumed that you have carefully cleaned the lenses before taking the camera out in the spring. A lens covered with the film of dust which accumulates during winter cannot give a brilliant picture, no matter what the other circumstances are.

Of course, you know most of these things; but we are all apt to overlook them—I do, I know; so the little reminder may help you to bring home a better first film this spring.

## Supplement to Victor Film Directory

We have just been informed by the Victor Animatograph Corporation of Davenport, Iowa, that the non-theatrical "talkie" market has developed with such rapidity in recent weeks that they have found it necessary to print a supplement to their Victor Directory of Film Sources, which was referred to in our December, 1930, issue. This supplement contains all of the names of the sources of sixteen-millimeter films with sound-on-disc that they have been able to obtain to date. It also lists a great many of the titles of available films. In view of the present interest in non-theatrical talkies, no doubt there are many of our readers who will be interested to receive a copy of this supplement. It will be sent free of charge to anyone requesting it.

## Amateur Movie Film Endurance Contest

In these days, one can hardly pick up a paper without reading about some form of endurance contest. If it is not a world's dance marathon, it is a new airplane altitude record, or a refueling endurance flight. Since the earliest times, people have always been interested in endurance contests; the very word "marathon" brings to mind a classic endurance race with which everyone is familiar.

Under the circumstances, it is hardly surprising that amateur movie fans are interested in another type of endurance contest—the endurance of their precious films. Ask any theater operator how long a standard motion-picture print is good for showing. He will tell you that it is customary to scrap these films after one hundred or so showings. In these days of sound pictures, it is not at all unusual for a print to be thrown out of circulation after having been run fifty or sixty times.

The amateur uses a much smaller, and, at first sight, an apparently more fragile film than is used in the theaters. However, experience proves that it is actually not less durable, or at least that the apparatus available to the amateur permits a film to be shown many more times than would be considered feasible in the professional field.

It is interesting, therefore, to know just how long this 16-millimeter film can be shown. As a matter of fact, according to the Bell & Howell Company, every Filmo Projector, before being shipped, runs a loop of film through for about half an hour. This is equivalent to showing a film more than 500 times, because each frame in the short loop passes through the mechanism that number of times in a half hour. The loop is then examined for any signs of damage, and the machine is not passed unless this loop is perfect. Compared with the service usually obtained with films in the theater, the amateur is protected, to a remarkable extent, against damage to his valuable films.

Several endurance contests have been made at different times with regard to 16-millimeter film. A very careful test was recently made with a Bell & Howell Filmo Projector to determine just how efficient such machines are from the standpoint of preserving film. A 16-millimeter film was run through this projector 19,300 times before the film could be considered in such a state that it should be thrown aside as practically useless. Despite the fact that this film was run in a regular Filmo Projector with a single-tooth shuttle drive, careful measurement with a measuring microscope indicated identical wear on the perforations on both sides of the film.

This test goes to prove that, in the long run, the principal wear is at the sprockets and not at the aperture. This might be considered due to the fact that the sprocket teeth necessarily enter the perforations with a more or less rolling motion which would in time tend to chip the film, whereas the shuttle tooth has a perfect rectilinear motion, entering the perforations at right angles and starting to move very slowly with a constant acceleration. At the latter portion of the stroke, the acceleration decreases in like proportion and the shuttle tooth leaves the perforation at right angles.

It is very interesting to do a little statistical figuring on this test. For instance, most people do not show their pet films more than twice a week. At this rate, these films can be shown twice a week for 190 years. Even if the films were shown every night in the week, they could be shown continuously for 53 years before they would be thrown away. Therefore, there seems little cause to fear that the most valuable amateur films need ever be worn out as long as a good projector is kept in reasonably good condition and the film also kept in reasonably good condition by the use of humidors and proper storing.

## When You Take Your Movie Camera Abroad

More and more, travelers are taking amateur movie cameras with them when they go abroad. They are doing this because they find that these little instruments enable them to capture foreign life in action—just as it is lived. And when they return to their homes, they have only to throw their movies on the screen in order to relive the joys of their travels over and over again.

Because of the increasing vogue of travel movie-making, we are sure that it will be found worth while to make a few practical suggestions as to taking camera and film to foreign countries.

With regard to the camera itself, special precautions are necessary in taking care of the lens, because moisture is very apt to condense upon it, leaving a slight deposit which will interfere with the possibility of good results. This seems an unimportant point; but a dirty lens can spoil many dollars' worth of film. One firm manufactures a



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special lens-cleaning outfit, the price being nominal. Other than the matter of keeping the lens clean, no special precautions as to the care of the camera are necessary beyond the actual instructions issued with every instrument sold, except to avoid getting sand, dust, or water in the mechanism.

Film can be bought in this country and taken abroad; in fact, it is generally cheaper to do so, because the price in the various foreign countries is usually the same as in the United States, plus an import duty. However, films can be purchased at almost any of many photographic supply houses abroad, and development of their particular make of reversal film is undertaken without additional cost at numerous laboratories maintained in foreign countries by film-manufacturers. All film is adequately packed for normal use; but if a prolonged stay in a tropical area is anticipated, film should be purchased in special export packing for which there is a slight additional charge.

At the present time there is a duty on amateur motion-picture film and equipment entering certain foreign countries which, in the case of travelers making a record of their tours, is not often enforced. The experience of the great majority is that a small supply of film for personal use, together with their cameras, is admitted practically everywhere without restriction.

In some countries the traveler is occasionally required to deposit an amount on the movie camera and film approximately equal to the import duty. This amount is refunded, if the material is taken out within a specified time—usually six months.

The United States Tariff Act of 1930, now a law, provides that motion-picture film exposed abroad, whether developed or not, if of American manufacture and if not to be used for commercial purposes, may be brought into the United States duty free. This free entry may be made into the United States possessions overseas as well as the mainland, with the exception of the Philippine Islands, the Virgin Islands, American Samoa, and the Island of Guam.

Before leaving this country on a trip abroad, it is especially suggested by the Bell & Howell Company that you register your camera, lenses, film, and other equipment with the customs office at the port of departure, using Form No. 4455. This will save all argument as to American origin when you return.

After you have replaced your exposed film in the round, black metal case which is furnished with all sixteen-millimeter film, place the case in your paper carton or metal sealing case; but do not reseal. If you wrap the entire package in several layers of ordinary newspaper it will help wonderfully in preventing deterioration from moisture.

It is recommended that all travelers have an occasional roll of film processed abroad if possible, so as to afford an opportunity of checking their results. If you have film processed abroad, it is advisable to avoid mailing it across international borders, as delays and difficulties invariably occur. Many travelers prefer to bring most of their film home with them to have it processed at a domestic laboratory with whose work they are familiar. *Note*: At the date of writing, all film processed in Italy must be censored in Rome before leaving the country. This is a long procedure and should be avoided if possible by having film processed after leaving Italy.

The experience of the majority of travelers is that no trouble or restrictions are encountered by tourists.

The laws evidently are not intended to operate against the amateur; therefore, film is generally admitted free, provided it is carried in the owner's personal baggage.

## Photographing the Birthplaces of Presidents

To acquire photographs and historical data on the birthplace of every President of the United States is, indeed, a worthy ambition. John McCullum, fifty-one years old, had just this ambition thirty-three years ago when he was mustered out of the Army at the close of the Spanish-American War.

McCullum had enlisted at the age of eighteen and, after serving twenty months in the Philippine Islands as a member of the 28th United States Volunteers, he came back to the United States, where he entered boxing professionally. After boxing over three hundred bouts, he took stock and found that he had little more than a couple of cauliflower ears, a pension from the Government, and a burning ambition.

Now free to follow his bent he started to hitchhike from State to State, making photographs of interesting places, particularly those associated with the lives of the Presidents of the United States. Ohio yielded interesting data on Garfield, Hayes, McKinley, and Taft, and Illinois afforded opportunities of obtaining many pictures connected with Lincoln and Grant. Only last year he traveled to Iowa to photograph the native village of Herbert Hoover.

Down below the Mason-Dixon Line he went to reach the homes of the famous Virginians: Washington, Jefferson, Madison, and Monroe, and those later sons of the Old Dominion—Harrison, Tyler, and Wilson. In North Carolina, the birthplaces of Jackson, Polk, and Johnson were a bit uncertain, and considerable photographing was necessary in order to be sure of having the right place, or at least the locality in which they were born. Over in Tennessee these three Presidents lie in stately tombs, a far cry from their obscure beginnings.

His hardest job, he said, was in getting a picture of President Roosevelt's grave at Oyster Bay, New York, where he had to bide his time until he could elude the police by climbing the fence surrounding the plot.

He now has a collection of photographs which include the birthplace, the home while in office, and the tomb of every President since Washington, excepting, of course, the tombs of the two yet living. McCullum is staying for a time at the Soldiers' Home, Vineland, N.J., though as soon as he saves enough money from his pension he will again hit the open road in search of additional historical photographs to add to his unique collection.

E. L. Hilts.

It must be very difficult for the children to learn good manners these days, with nothing but books to learn from.

*The Boston Mail.*

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